

Scot

An enquiry into the Origin of
Gout.

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AN
ENQUIRY
INTO THE
ORIGIN OF THE GOUT.

WHEREIN
Its various SYMPTOMS and APPEARANCES, and
those of all BILIOUS and NERVOUS DISOR-
DERS, are traced to their CAUSE;

AND
A safe and certain MODE of REMEDYING them
is proposed.

By JOHN SCOT, M. D.

The SECOND EDITION, Corrected and Improved.

L O N D O N,
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MDCCLXXXIII.



INTRODUCTION.

FROM the earliest accounts of the Gout, down to the present period, it has ever been treated and spoken of as a disease entirely *sui generis*, singular in every respect, and unclassable with any of the other disorders incident to the human body : these opinions have given unbounded scope to imagination, in the search after the cause and the cure of the Gout ; and, probably, have been the true cause why that disease, of all others, still continues to be the *opprobrium medicinæ*, incomprehensible in its nature, and unmanageable in its effects. This being the situation of the matter, whoever endeavours to remove the thick darkness that surrounds the subject, may at least expect to be listened to with attention, and judged

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of with candour, and to receive so much applause as each attempt to diminish the number of human afflictions may seem to deserve. Such are the considerations that have encouraged me to offer to the Public the following Treatise, on the rationale and method of treating the Gout, and other disorders of the nervous system; which else, on account of the novelty of most of the opinions contained in it, I should have confined within the small circle of my own society and conversation.

C H A P.

C H A P. I.

Of the different kinds of Gout.

ALTHOUGH, in every form the Gout may assume, I shall consider it as a disorder originating entirely in the nervous system, yet, as it varies much in symptoms and appearances, according to the place and circumstances of the attack, it may properly enough be divided into five different states or conditions, viz. *irregular, imperfect, regular and perfect, misplaced, and retrocedent.*

The Gout is termed *imperfect, unformed, and wandering*, when, without fixing on any joint of the extremities, it excites in the body a variety of troublesome complaints, undistinguishable from those that are characterised by the general name of nervous; a pretty copious list of which may be found in the Third Chapter of this Treatise.

When suddenly, and chiefly in the night, while the patient is asleep, without any previous warning or disorder in the region of the stomach, the Gout attacks some joint of the extremities, producing a lameness, and a puffy swelling of the integuments, but without much pain or inflammation, the patient himself knowing nothing of the matter until the morning, when he discovers his inability to use the member affected; this may be justly be deemed an *irregular Gout*, not unlike the sudden puffy swellings of the skin, to which all hypochondriac and hysterical people are liable, in various parts of the body.

When, after several days inappetency, indigestion, flatulency, and other marks of disorder in the stomach, and the other bowels of the lower belly, the patient is suddenly seized in his sleep with an excruciating pain in some joint of the extremities,

mities, the ball of the great toe, for example, seemingly arising from a spasmodic contraction of the tendons, and tendinous ligaments and membranes of the part affected, and which, after uninterrupted torture for the space of twenty-four hours, beginning to abate of its severity, the patient gets a little sleep, and awakes pretty free from pain, but perceives that the part affected is considerably swelled, with an inflammation of the nature of St. Anthony's fire diffused all over it; these symptoms and appearances, accompanied with a considerable degree of fever and thirst, and a copious red sediment in the in the urine, are the distinguishing marks of a complete paroxysm of *perfect, regular Gout*. I particularly mention the appearance of the urine, because the red sediment is a certain criterion of the true inflamed, regular Gout, and never accompanies a spurious, or imperfect attack.

The Gout is called *misplaced*, when, instead of the joints, the paroxysm vents itself on the face, in the form of an erysipelas, or St. Anthony's fire ; or on the throat, with all the symptoms of a painful and dangerous quinsey ; or on any other part of the body, not a joint. This kind of Gout, though misplaced, is regular and genuine, being accompanied by the characteristic symptom of a disturbed digestion, together with the subsequent appearance of a red sediment in the urine.

When, after being fairly and completely formed, with pain and inflammation, in the extremities, the Gout, by some accident, forsakes that station, and fixes elsewhere, in the trunk, the head, or the internal parts of the body ; in that case it is named *retrocedent*. And when the retrocedent Gout fixes in the stomach, the brain, or any other important vital part,

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the patient's danger becomes extreme, chiefly on account of the erysipelatous inflammation which accompanies the spasm: but a primary attack in the stomach from an irregular Gout, is seldom very dangerous, if properly managed; being commonly no more than a spasm, unattended with any inflammation; and more readily cured by cordials and opiates than by bleeding, which rather lengthens the attack.

C H A P. II.

*Nervous complaints not distinguishable from irregular, wandering Gout.—
An accurate detail of hypochondriac, hysterical, and other nervous symptoms.*

I Have said that the symptoms of irregular Gout are indistinguishable from such as are characterised

by the general name of nervous; but that the reader may the better be enabled to judge of the truth of that assertion, I beg leave to recommend the perusal of the following accurate detail of such symptoms as are deemed hypochondriac, hysteric, and nervous, and to compare them with another and equally exact account of those symptoms that are imputed to latent, irregular, unformed, and wandering Gout; both details, as they are given by the late Dr. Whytt, Professor of Medicine in the University of Edinburgh, in his celebrated Treatise on Nervous Disorder, &c. And as it does appear that the chronic and unformed or wandering Gout, is so exactly similar in its symptoms to nervous hypochondriac, and hysteric complaints, that no distinguishing mark has hitherto been discovered, by which to discriminate either in their origin,

or

or in the manner they ought to be treated, it is but fair to conclude, the irregular Gout being allowed to have the same origin as the regular, that both regular and irregular Gout ought to be placed in the same class of diseases, both arising from a diseased state of the nervous system.

“ I shall not, says the learned Professor, pretend to exhibit a complete list of all the morbid symptoms which have commonly been reckoned of the nervous, hypochondriac, or hysteric kind, but shall content myself with mentioning the following, as being the most common and remarkable ; wind in the stomach and intestines, heart-burning, sour belchings, squeamishness, and vomiting of watery stuff ; tough phlegm, or a black liquor like the grounds of coffee ; want of appetite and indigestion, or uncommon craving for
“ food,

“ food, and indigestion or debility,
 “ faintness and sense of great empti-
 “ ness about the stomach when hun-
 “ gry; a strong desire for rare and
 “ uncommon sorts of food, or for
 “ things that can afford no nourish-
 “ ment; a visible swelling or infla-
 “ tion of the stomach, especially after
 “ eating; sometimes with cramps
 “ in that viscus; an oppression about
 “ the præcordia; an uneasy though
 “ not painful sensation about the sto-
 “ mach, attended with low spirits,
 “ anxiety, and sometimes great timi-
 “ dity; strong pulsations within the
 “ belly; spasms in the bowels, and
 “ distensions of several portions of
 “ them; violent colic pains; a
 “ rumbling noise from wind passing
 “ through the intestines; the body
 “ sometimes too lax, oftener bound;
 “ pains in the back and belly, re-
 “ sembling those of the nephritic
 “ kind; a sense of irritation and heat
 “ in

“ in the neck of the bladder and ure-
 “ thra, with a frequent desire to
 “ make water ; a great discharge of
 “ limpid urine, at other times a fre-
 “ quent spitting ; sudden flushes of
 “ heat over the whole body ; shiver-
 “ ings, a sense of cold in certain
 “ parts, as if water was poured on
 “ them ; at other times an unusual
 “ glow ; flying pains in the arms
 “ and limbs ; a troublesome pain in
 “ the back and between the shoul-
 “ ders ; pains, attended with a hot
 “ sensation, shifting often from the
 “ sides or back to the interior parts
 “ of the abdomen ; cramps, or con-
 “ vulsive motions of the muscles, or
 “ of a few of their fibres ; sudden
 “ startings of the legs and arms ; al-
 “ most constant involuntary motions
 “ of the muscles of the neck and
 “ head, or arms and legs ; a gene-
 “ ral convulsion, affecting at once
 “ the stomach, bowels, throat, legs,
 “ arms,

“ arms, and indeed almost the whole
 “ members of the body, in which
 “ the patient struggles as in a vio-
 “ lent epileptic fit ; long faintings,
 “ in some cases following one an-
 “ other after short intervals ; palpi-
 “ tations or trembling of the heart ;
 “ the pulse very variable, frequently
 “ natural ; sometimes uncommonly
 “ slow, at other times quick ; oftener
 “ small than full, and on certain oc-
 “ casions, irregular and intermitting,
 “ a dry cough, with difficulty of
 “ breathing, with a constriction of
 “ the lungs, sometimes returning
 “ periodically ; yawning, the hic-
 “ cup, frequent sighings, and a sense
 “ of suffocation as if from a ball or
 “ lump in the throat, fits of crying
 “ and convulsive laughing ; although
 “ in the day time the patients are
 “ more generally pretty cool, and
 “ the pulse sometimes slower than
 “ natural ; yet in the night, espe-
 “ cially

“ cially in time of sleep, hot flush-
 “ ing often spread over almost the
 “ whole body; the pulse becomes
 “ quicker and stronger, and a faint-
 “ ness or some degree of sickness at
 “ the stomach is felt.

“ A giddiness, especially after ris-
 “ ing up hastily; pains in the head
 “ sometimes returning periodically;
 “ a violent pain in a small part of
 “ the head, not larger than a shil-
 “ ling, as if a nail was driven into
 “ it; ringing in the ears; a dimness
 “ of sight and appearance of a thick
 “ mist, without any visible fault of
 “ the eyes. Objects are sometimes
 “ seen double, and unusual smells
 “ are perceived; obstinate watch-
 “ ings, attended sometimes with an
 “ uneasiness which is not to be de-
 “ scribed, but which is lessened by
 “ getting out of bed; disturbed sleep;
 “ frightful dreams; the night mare;
 “ sometimes a drowsiness and too
 “ great

“ great inclination to sleep ; fear,
 “ peevishness, sadness, despair ; at
 “ other times high-spirits ; wander-
 “ ing thoughts, impaired memory,
 “ ridiculous fancies ; strange persua-
 “ sions of their labouring under dis-
 “ eases of which they are quite free,
 “ and imagining their complaints to
 “ be as dangerous as they find them
 “ troublesome ; they are often angry
 “ with those who would convince
 “ them of their mistake.

“ Patients, after having been long
 “ afflicted with many of these symp-
 “ toms (for all of them never hap-
 “ pened to any one person), some-
 “ times fall into melancholy madness,
 “ the black jaundice, a dropsy, tym-
 “ pany, phthisis pulmonalis, palsy,
 “ apoplexy, or some other fatal dis-
 “ temper.”

C H A P III.

An accurate detail of the symptoms imputed to irregular wandering Gout.

TH E same author's account of the symptoms, and disorders occasioned by the unformed, irregular Gout is literally as follows.

“ This morbid cause in the blood,
 “ instead of being deposited on the
 “ aponeuroses, tendons, ligaments,
 “ and membranes of the feet, hands,
 “ or other joints, falls upon different
 “ parts of the body, and produces
 “ symptoms almost as different as are
 “ the parts which it attacks; such
 “ for instance are the flying pains,
 “ spasmodic contractions, and sudden
 “ sensations of heat and cold, in the
 “ muscles and exterior parts of the
 “ body. A want of appetite and too
 “ great

“ great craving and faintness ; a nau-
 “ sea or vomiting, flatulent swel-
 “ lings, borborygmi, or rumbling in
 “ the bowels, watching, low spirits,
 “ cramps, convulsions, and violent
 “ pains in the stomach and bowels.
 “ An increased secretion of saliva,
 “ from an irritation of the vessels
 “ of the salivary glands ; the globus
 “ hystericus in the gullet ; a spas-
 “ modic asthma in the lungs ; palpi-
 “ tations, and irregular motions in
 “ the heart ; an excessive flow of pale
 “ urine, or sometimes nephritic pains
 “ in the kidneys ; a hemicrania or
 “ partial headach, the calvus hysteri-
 “ cus, or shooting pains in the head.
 “ Besides these, I have seen many other
 “ symptoms occasioned by an im-
 “ perfect or an irregular Gout ; such
 “ as a delirium or mania ; an in-
 “ flammation in one of the tonsils ;
 “ a troublesome dysuria ; a violent
 “ itching between the toes ; a severe
 “ pain

“ pain about the breast bone re-
 “ turning twice or thrice a day,
 “ especially upon any strong af-
 “ fection of the mind, or effort of
 “ the body, and sometimes attended
 “ with a painful sensation in the
 “ middle of each arm; a sense of
 “ burning heat over the whole sur-
 “ face of the body, except the legs,
 “ while in the mean time the skin
 “ was scarcely sensibly hotter than
 “ in a state of health, and the pulse
 “ was under eighty in a minute.
 “ In one patient I met with a slight,
 “ but frequent returning gonorrhœa,
 “ from a gouty humor falling in the
 “ vessels of the urethra; and in an-
 “ other, an uneasy itching of the
 “ scrotum. I have seen three cases
 “ of a sharp pain in the testicles,
 “ from the same cause. In one of
 “ these there was a considerable
 “ swelling along with the pain, both
 “ which went off upon the Gout
 “ coming into both the feet.

“ All this is confirmed by observ-
 “ ing, that persons, who have been
 “ but little troubled before with those
 “ symptoms, commonly called nerv-
 “ ous, upon the rheumatic or rather
 “ gouty pains leaving their feet,
 “ hands, or loins, have been seized
 “ with an irregular intermitting
 “ pulse, giddiness, faintness, diffi-
 “ culty in breathing, nausea, vomit-
 “ ing, flatulency in the stomach and
 “ bowels, depression of spirits, and
 “ other symptoms of the like kind.

“ Such complaints, if the patient
 “ has never had the Gout, are gene-
 “ rally called nervous ; but if he has
 “ been subject to the Gout, they are
 “ imputed to the arthritic matter
 “ leaving the extremities, and fixing
 “ on the head, or viscera of the tho-
 “ rax or belly.”

To what the learned professor has
 here advanced, I will presume from
 my own experience, to add, that

although such patients may never have had the Gout, yet if by their mode of living they might have acquired a title to that disorder, or, if they have descended from gouty parents, all the above mentioned symptoms may fairly be placed to the account of an irregular Gout ; and besides these, many bilious complaints owe their origin to the same cause. The irregular Gout also frequently attacks the lungs, with all the fury and circumstances of a consumptive cough : it likewise often produces a spitting of blood, sometimes forces itself out on the surface of the skin, in the form of an erysipelas, or St. Anthony's fire, sometimes appears like a scorbutic eruption, &c. &c.

C H A P. IV.

Of the existence of a gouty matter in the juices—the arguments in favour of it insufficient.

FROM the manner in which the Professor concludes his account, it is evident that, with all his accuracy and penetration, he could discover no criterion or mark, by which nervous and hypochondriac symptoms might be distinguished from those occasioned by an irregular Gout. And the truth is, they are all of the same family, differing only as one nervous symptom may differ from another nervous symptom, or as the difference of constitution, and other circumstances, may create a variation in the appearance of the same symptom in different persons.

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The ancient opinion, and indeed the general one of this day, is, that all gouty symptoms, whether acute or chronic, regular or irregular, are excited by the irritating quality of a certain acrimonious matter circulating in the juices, which matter is supposed either to be generated from intemperance, or inherited from parents; and this acrimonious humour is supposed to be of a specific nature, and is distinguished from every other acrimony, of which there is a large catalogue, by the name of *Materies Arthritica*, or gouty matter. And this arthritic matter, when accumulated to a certain point, is supposed to discharge itself on some joint, and thus to create a paroxysm of regular, acute, inflamed Gout.

On the other hand, although the chronic, unformed, irregular Gout, is supposed to arise from an acrimonious humour of the same sort as

that which produces the paroxysms of regular Gout: yet there is this singular and unaccountable difference between them, that whereas the materies arthritica of the regular Gout, increases so rapidly, that the vis medicatrix naturæ, the salutary power of the constitution, is frequently obliged to expel it all at once, by periodical paroxysms, or fits of the Gout; the materies arthritica, or matter of the chronic Gout, on the contrary, is said, never to accumulate to that point, but on the contrary, is supposed to remain in the juices, in quantity just sufficient to excite all the symptoms mentioned in the foregoing list, by irritating the nerves, and attacking different parts of the body in the course of its circulation.

Of the arguments that have been adduced in support of that theory of the Gout, which supposes a materies arthritica, or specific gouty matter,
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one of the most obvious and common is furnished from the appearance of the chalky concretions in the joints of those who have been long afflicted with the regular Gout; such concretions being presumed to arise from repeated depositions of gouty matter, and accumulated from the frequent despumation of gouty juices; but, unluckily for the doctrine of gouty acrimony, it is demonstrable, that these concretions are void of all acrimony; that, on the contrary, being of the nature of chalk, which is an absorbent earth, it is their peculiar property to correct and destroy acrimony; and that, in all human probability, they are merely the residuum, or sediment of the lymphatic juices, which are extravasated, sometimes in a greater, sometimes in a smaller proportion, by the violence of each returning paroxysm.

In consequence of the notion, that a certain acrimonious matter in the juices is the immediate cause of Gout, it has become a received opinion, that each paroxysm of Gout is a salutary operation of nature to expel the morbid cause; and that a regular fit performs that office so effectually, that the constitution is for a time perfectly cleared of it, not one particle remaining at the termination of the paroxysm. But whatever be the cause of Gout, the principle of this last opinion is contradicted by the clearest evidence; for the body is so far from being cleared of the gouty cause, by a fit of Gout, that after the most perfect paroxysm, another equally severe may be immediately excited, by the irritation of a smart purge; by the agitation of the passions; or by whatever else is capable of stimulating, in a sufficient degree, the nervous system. Hence
it

it is not unreasonable to conclude, that either the cause of the Gout is not an acrid matter in the juices, or that a gouty paroxysm is not a critical discharge of it.

The red sediment, so copious in the urine during the whole period of a regular fit of Gout, has been instanced as another proof of the existence of an acrid matter, which nature was then employed in discharging under that appearance. But I believe it is generally known, that such urine, and such a sediment, is by no means peculiar to paroxysms of Gout; the same being common in all cases of erysipelas, in acute rheumatisms, bilious fevers, hysteric colics, and all diseases originating from, or accompanied with a redundancy of bile; the red matter at the bottom of the urine, may be considered as real bile, which continues to pass off by the kidneys, as
long

long as any of it remains extravasated in the regions of the liver or of the stomach.

The following has been considered likewise as a stubborn proof of the existence of a specific gouty matter, viz. that the whole train of symptoms imputed to irregular, unformed, chronic Gout, have been observed suddenly to vanish, or greatly to abate, upon the eruption of a simple gonorrhœa, a discharge pretty common in such constitutions, without the least concomitant circumstance, or suspicion of venereal infection; therefore such gonorrhœa is generally considered as a discharge of gouty matter from the surface of the urethra, the salutary power of the constitution having happily hit upon that easy mode of expelling it from the body. But to shew how little consequence ought to be allowed to this conjecture, we have only to recollect,

collect, that hysterical young women, in whose juices little acrimony of any kind, particularly of a gouty nature, can be supposed to exist, often experience an immediate abatement or entire cessation of very troublesome and even alarming hysterical and nervous symptoms, upon the first appearance of a discharge similar and equivalent to the above mentioned simple gonorrhœa, viz. the fluor albus.

So strongly, however, is it the opinion of the public, that the seeds of all diseases originate from, or may be traced to an impurity of the juices, that every eruption, every itching of the skin, is accounted an effort of nature to expel some particular acrimony ; and when, as frequently happens, on the appearance of certain cutaneous itchings or eruptions, complaints which had been long
trouble-

troublesome under the name of an irregular Gout, or long prescribed for, as hysterical, hypochondriac, nervous, &c. seem to be considerably relieved; in the former case, such eruption, or itching, is said to arise from the expulsion of gouty matter; and in the latter case, of scorbutic matter; which last kind of matter is likewise supposed to be one very frequent cause of nervous disorders: nevertheless, in the following pages I shall endeavour to prove, that such cutaneous appearances, &c. ought rather to be deemed the immediate offspring of nervous agitations, concentrated at these particular parts, and forcing out different appearances, and discharges suitable to the nature of the different parts these concentrated agitations fall upon; and that, so far from being the cause, they are really the consequences

consequences of those very disorders which they are supposed to give rise to.

C H A P. V.

Of the true cause of the Gout—Of the nerves, and the moving principle resident in them—its powers in the body—the cause of circulation.

FROM an accurate observation of facts and of their analogy, and from such other proofs as are obtainable concerning so intricate and evanescent a subject, the subtle nature of which in a great measure eludes the senses, and all the common modes and instruments of investigation, it appears that the proximate, as well as the predisposing cause of Gout, is only to be found in the nervous system. But in order to explain and illustrate this opinion, it will be necessary

cessary first to attempt the investigation of the nature and office of the nerves, and of that active principle which resides in them in the character of nervous fluid; and to trace the influence, powers, and operations, of that subtile spirit, as well in the œconomy of health as in the formation of disease. We shall commence this arduous task, by an enquiry into the nature of circulation, and into the means or instrument, by which that first act of life in vegetables and animals is performed.

The principle I mean to assume, as the active principle resident in the nervous system, under the character of nervous fluid, and also as the power that conducts the circulation of all the juices, both in living animals and vegetables, is the electric, ethereal spirit, suitably combined and modified by the hand of nature;

nature ; this is, indeed, the only known power in nature, which can be supposed at all adequate to the performance of either of these offices. It is a fluid which seems to pervade the universe ; it probably reaches from the center to the circumference of creation ; without it all nature, if nature could exist without it, would be a dead mass ; we know of no other active principle in all creation. It is this principle, which through the medium of the earth, enters at the roots of the vegetable, and thence proceeds along the tubes of the plant into the branches, body, and leaves, carrying with it from the earth, and fixing in its substance such nutritive terrestrial particles, as are suitable for vegetable support or increase ; at the same time it carries forward the whole tide of vegetable juices, and at last passes off from the surface of the
 plant

plant in that kind of insensible perspiration, which is ever the consequence of a complete circulation, both in vegetables and animals.

In the animal fabrick the heart has almost universally been considered as the only instrument of circulation; the heart is supposed, by an exertion of its immense muscular power, to inject the blood into all the arteries at each pulsation, and so to force forward, with infinite violence the whole clammy tide of animal juices.—But the following facts will probably evince, that the animal juices may, and actually do, in some instances, circulate without the assistance of the heart. One half of the blood in the human body, being collected from all the abdominal viscera, into the vena portæ, is by that vein, without any possible assistance from, and even without the reach of the heart, and without any pulsation whatever, conveyed

conveyed with all the minuteness of arterial ramification, through the substance of the liver, until it is received by another set of veins, and by them conducted to that general reservoir of venous blood, the vena cava;—that animal juices do circulate without the aid of a heart, is clearly proved, inasmuch as nature has actually formed some animals without that organ; and that other animals are known to live long after the heart is extracted.

But to prove that it is not probable, nay, hardly possible that the heart forces forward circulation in the manner hitherto supposed, I will beg leave to offer the following argument.

A late ingenious anatomist, Mr. Hewson, has demonstratively shewn, that the blood is composed of an infinity of flattened globules, of the appearance of little bladders or air bub-

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bles

bles flattened, which, by the help of a microscope, may be seen in the foot of a frog, coursing one another in endless series along the channels of the arteries, without interruption, without difficulty, and seemingly without pressure, like balls descending through tubes, for which they had been accurately moulded; indeed there appears so little pressure operating upon them in any direction, that it is evident it must be some other power than the contained juices, that distends the sides of the arteries through which they pass.

My second argument is, that a power capable of acting with such violence as the heart is supposed to act, that is, of forcing open at each pulsation, all the infinite series of vessels in the animal machine, and injecting into them so bulky and so clammy a liquid as the blood, &c.

and

and placed like the heart to act with unceasing rapidity, would not only demolish the tender texture of the red globules, but most certainly, in the course of a few pulsations, would even tear to pieces all the finer vessels of the animal machine.—Upon the whole, I have no doubt that it is the æthereal spirit passing along the fibres and tubes, which compose the sides of the arteries, that distends these arteries; whilst the same principle acting on the juices themselves, perhaps encompassing, and distending every separate globule, conducts them gently, and without the least violence, through all the intricacies of their course.

The same principle which I have assumed as the conductor of both animal and vegetable circulation, I shall venture to consider as residing and acting in the nervous system, under the character of nervous fluid. Indeed, I know of no other principle

in all nature, capable of executing either of these offices. The truth is, to suppose the existence of two, equally active principles, would be in direct contradiction to the known simplicity of nature, which by different combinations and modifications of a very few original elementary materials, seems to produce all that immense variety in the animal, vegetable, and mineral kingdoms, which our globe exhibits.—In each capacity, as phlogiston, or uniting cause of all the various substances that compose the animal frame, as conductor of the circulating juices, and as the moving agent and the spirit of life in the nervous system, this same ethereal spirit may be, and most probably is, under each different denomination, equally the sentient principle, or the medium through which sensation is communicated to the mind; and being the only active

tive principle hitherto discovered in nature, it may properly enough be considered as the instrument of expansion, and of growth, both in animals and vegetables.

This ethereal spirit which pervades every fibre; and moving, as we shall afterwards endeavour to demonstrate, in animals, progressively from the center to the circumference, in a vascular direction, whilst it expands and invigorates the solids, carries with it the whole tide of circulation, and terminates its course, by escaping from the mouths of the exhalent vessels, which open on all the external as well as on all the internal surfaces of the animal machine, and leaves on each surface a certain portion of moisture and softness, suited to the various occasions of the animal œconomy. That the electric or ethereal fluid is the animating principle and source of circulation in

all living bodies, as well vegetable as animal, appears more evidently from this circumstance, that both animals and vegetables are vigorous and healthy, in proportion as this spirit abounds in them ; and when it is deficient they are weak and sickly. As an example : it is the singular property of an east wind so to change the condition and disposition of the surrounding ether, or so to impair the power by which all living bodies collect and retain such a portion of that fluid as is necessary for the offices of life, that while the wind is in that quarter, delicate fabrics, both animal and vegetable, exhibit marks of great disorder and debility : in vegetables of hasty growth, the juices cease to move, the lively green changes to a sickly yellow, and, as happens in actual death, insects and vermin of various kinds generate on the surface of them. In

this situation the vegetable is said to be blighted ; but if before the organization of the vegetable is impaired, the wind should happen to change to any point between the south, and to the west of north, the nutritious quality of the atmosphere, is restored, together with the natural powers by which living bodies attract the spirit of life, the circulation of the juices is gradually renewed, the plant recovers, and all the insects upon its surface perish, being no longer able to draw nourishment from that, which, now restored to life and vigour, does itself powerfully extract the vital principle from these very insects, as well as from every thing around it. I own it seems strange that puny insects should breed and even thrive under the influence of that east wind, which blasts the most luxuriant plants, and causes every other kind of life to

shrink under its malignity ; it is a fact, however, which hop-planters in particular are perfectly acquainted with. Perhaps the copious nourishment refunded by the expiring plant, does more than atone to the insects for the sterility of the east wind. The carcass of a dead animal, or of a dead vegetable, in a state of dissolution, may perhaps become hot-beds to the embryos of the same, or of other species of existences.

It is evident that the animal fabric possesses great auxiliary means of collecting and retaining the ethereal principle, which vegetables are not endowed with ; such as the perpetual motion of the heart, and of the arterial system ; the motion of the lungs, including that which the lungs occasion to the surrounding parts ; every kind of voluntary muscular action, as well as that which arises from the locomotive faculty ; it also enjoys

enjoys the power of obtaining occasional and immediate helps by the channel of the stomach, from clothing, friction, &c. All these greatly increase the power of collecting the electric principle, and stimulate its action ; by these means the human body is enabled much better than the vegetable to endure every alteration in the atmosphere ; it is even capable of enjoying health in the extremes of heat and cold, and of enduring the most rapid transition from one to the other ; notwithstanding all these advantages, the diminution of the vital ether, occasioned by the malign influence of an east wind, makes so violent an impression on animal life, that it immediately recalls every symptom of chronic complaints, to which, at any former time, the body may have been liable ; such as rheumatic pains, aguish feelings, nervous affections, asthmas, and all other indications,

cations of difficult circulation ; together with a painful sense of general weight, oppression, and languor, in which the mind largely participates, being on these occasions much troubled with a variety of gloomy ideas, and melancholy apprehensions, altogether independent of any rational cause, or particular object of fear ; all which disagreeable sensations and ideas vanish, the moment the wind changes to another quarter. Now, we know of a certainty, that the chief circumstance in which the east differs from all other winds, is in the condition or state in which the electric fluid exists at that time in the atmosphere, where it appears very inactive, or very confined and unattainable.

C H A P. VI.

IN order to prepare the mind of the reader for the reception of a doctrine of such novelty, and in which, must confess, there are many things that, at first view, may appear incredible and inadmissible, it will be necessary to illustrate by some farther examples, that the ethereal spirit is in fact, the only active principle in our sublunary system, is found every where, resides in and forms the most important part of all material existences, and may justly be styled the spirit of life, the soul of matter. When suitably combined, diluted, or modified for the purposes of life, this spirit is mild, grateful, invigorating; but when concentrated, and its activity

vity at the same time violently excited, it becomes a destroying power, tearing to pieces every composition of matter.

The light which pours upon us unceasingly from the sun, mingling with the atmosphere, and encompassing us all around, is nothing else than ethereal fire, which is constantly entering our frame with every mouthful of air; and on that account the lungs may properly be esteemed the second great channel, by which the animal fabric is replenished with this active principle. However salutary and essentially necessary to all living things, when diluted, rarified, and suitably combined, for the purposes of life, by the hand of nature; yet this very light becomes an ardent, consuming spirit, when collected and condensed in the focus of a burning glass, in which the most solid substances are
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not only instantly dissolved, but dissipated without leaving almost a particle behind.

Although the simplicity of nature in all her operations is evident; and although it is universally acknowledged, that only by varying the combination and proportions of a very few elementary principles, nature does produce all that variety of substances and appearances which this globe exhibits; yet almost every extraordinary appearance and effect, has in its turn been mistaken for a distinct principle, or an independent cause; and thus have the number of original elements been greatly enlarged; and thus has the author of nature been treated like a bungling workman, who finds himself obliged to employ a variety of correcting powers, to regulate or to rectify the erring propensity of the machine he has constructed. Amongst
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the spurious elements which philosophy has added to the real ones, are the phlogiston, and the acidum vagum, or universal acid. It will not be difficult to shew that both these derive their existence from the principle of ethereal fire.

Phlogiston can be nothing else than the principle of fire embodied and fixed in grosser matter ; the most inflammable substances have most of this fire ; probably nothing can exist in a substantial form without phlogiston ; this phlogiston when stimulated into motion, by the application of actual fire to the substance in which it resides, breaks suddenly and violently forth from its confinement, dissipating the materials with which it had been incorporated ; which materials thus volatilised and ignited, act as a proper medium by which heat is embodied, substantiated, and communicated to all
around ;

around ; and by which also, at the same time, the form of flame is given to the spirit that disperses them. That the ethereal fire does not produce the sensation of heat without the assistance of a grosser medium, becomes in some degree evident from this fact, viz. the rays of the sun produce little heat in the higher regions of the atmosphere, to which the grosser exhalations of the earth never reach ; there, eternal cold seems to inhabit ; the top of Etna is covered with perpetual snow, whilst the heat at the foot of that mountain is extreme, and often intolerable ; the grosser exhalations of the earth, &c. affording there the proper medium to receive and to communicate the heat of the sun all around. In like manner, the steam arising from warm spirits of wine proves the most effectual medium through which to communicate the electric spark, and
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to kindle the spirits into flame. In short, to me it appears evident, that the ethereal fire when in the act of escaping from the substances with which it had been combined, communicates heat, and is spread out into a flame solely by means of the more subtile materials of the compound which it has volatilized and ignited.

That the acidum vagum, or universal acid is only a modification of this same universal fire, seems more than probable from the following observations—when the electric stream has been for some time played upon any substance, it acquires a sulphureous smell; the same stream excites an acid taste when directed to the palate; it also neutralizes a solution of alkaline salt. The inflammable spirit in wine or beer, may, by carrying on the fermentation of these liquors, beyond the point of what is called the vinous fermentation,
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be converted into an acid. As it is pretty evident that the acidum vagum, or universal acid, is the electric spirit in combination perhaps with some other matter; and as we must suppose that this universal acid is the parent of all other acids, I think I may conclude that all acids, vegetable and mineral, more especially the acid which is found so copiously in fats, oils, resins, and all inflammable substances, are only different modifications of the same ethereal spirit; and all the difference between one acid and any other, and between all acids and every inflammable spirits, seems to arise from the difference in the combination of the same ethereal spirit. All these observations and facts are collected only to shew the universality and verfatility of the principle of fire: in the focus of a burning glass, or escaping in violent agitation in the

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form

form of flame from substances on fire, there indeed it is terrible; but fat, which constitutes more than two thirds of all animal substances, is a mere magazine of fire; and yet in the form of fat, nothing can be more bland than is the ethereal spirit; the principle of fire abounds in nitre, and nitre is the most cooling thing in nature. Whatever easily takes fire, and burns freely, abounds with this ethereal spirit; yet how tame, and how innocent is this spirit in a thousand such substances, which may easily be recollected. In fine, I can discover no reason why, properly combined, it may not be the active, yet mild principle, which conducts the circulation of our juices; resides in our nervous system, in the character of nervous fluid; in the character of phlogiston, is the cement of solidity: and in all these three different departments, conditions, and characters, acts as the medium,

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through which all sensation is communicated to the mind.

C H A P. VII.

The rationale of digestion—not performed by any specific menstruum—the attractive power of the stomach.

ALTHOUGH it is extremely probable that this universal spirit, which is known to surround all bodies, as a kind of electric zone, of various dimensions, proportioned to the nature of each, may enter the animal fabric continually by all inhalent veins, whilst it is as constantly passing off by every exhalent artery : and although the lungs may extract from every mouthful of air they take in a certain portion of this spirit, which has been with great propriety denominated the secret nutriment of life, yet is it more particularly the

office of the stomach in the animal, and of the root of the vegetable, to collect and to distribute it through the fabrics of both. It has been already observed, that this fluid is the connecting principle of every material substance, and in that capacity is known by the name of phlogiston. Which phlogiston the stomach of every animal seems to possess the power of extracting from all such things as are proper for the nourishment of its body; hence it follows, that the food is decomposed in the stomach, in the same proportion as the phlogiston, or cementing principle, is extracted from it, by the digestive power of the stomach.

It has been remarked, that the very moment food toucheth the bottom of the stomach of a man faint with hunger and fatigue, he instantly experiences its cordial and invigorating powers, as if the essence of
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nourishment was immediately conveyed from the food through all the animal frame ; and so, certainly, is the fact : for the moment any food is swallowed, the stomach begins to extract from it the vital principle, the phlogiston, the essence of nourishment ; and at the same instant begins to distribute it through every nerve and fibre of the machine.

The phlogiston, or ethereal spirit, passing from the food through the minima vasa of the stomach and intestines, dilates, and renders them pervious, and carries along with it the more subtle parts of the food, together with the liquids in which they are diluted, into the general tide of circulation. The term absorption, generally used to express the peculiar action of the lymphatics and lacteals, implying a suction of a fluid at one end of a tube, and an ingurgitation of it at the other, seems

applicable only to rigid tubes: but the action of capillary tubes, even of the rigid kind, is probably performed by very different means, viz, by the current of the ethereal spirit, passing constantly with velocity through them, from one end to the other. For we know that by the application of the stream of the electric spirit to a capillary glass tube, a rapid motion is instantly given to the fluid, which was stagnating in it before. Now this rationale of digestion as it is so much nearer to the simplicity of nature than any hitherto offered to the public, is so much the more likely to be true. I do not pretend entirely to exclude the assistance of a gastric liquor; but, for the following reasons, no menstruum can of itself account for all the phenomena of digestion.

A great, and, in my opinion, unanswerable objection to the agency
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of a menstruum, as the sole instrument of digestion, is, that it is supposed to act with equal power, whether diluted with such liquids as are known to promote the dissolution of food, or when deluged with others that are by nature strongly disposed to prevent it. We see some men wash down their meals with a glass or two of water, others with three quarts of wine; and yet the business of digestion seems often to proceed more expeditiously in the latter case than in the former, notwithstanding that it is the property of wine to impede, and of water to hasten, the dissolution of animal food. And though it is also the nature of ardent spirits most powerfully to oppose the dissolution of all animal food, yet we know that indigestions are sometimes cured, and very frequently prevented, by a timely use of ardent spirits. Now these facts can only

be explained by admitting, our theory of digestion, and supposing that the attractive and electric powers of the stomach being greatly excited and increased by the wine and the spirits, the extraction and evolvation of the vital principle from the food is thereby accelerated, and consequently digestion promoted; although in any other place but in the stomach, wine or spirits would be the most effectual liquid in which to preserve both animal and vegetable substances from dissolution.

Another objection to the agency of a menstruum is, that by a sudden and violent agitation of the mind, especially when there is in the constitution an extraordinary irritability of the nervous system, the whole process of digestion may be disturbed, and interrupted, and all the fluids contained in the stomach converted into a pungent acid; the stomach

mach ceases to extract the phlogiston, or to distribute it; and instead of the preceding genial warmth that glowed all over the region of the stomach and bowels, which seemed to originate from, and to accompany the distribution of the animating principle, in its progress from the food towards the circumference of the body, through all the ambages of the abdominal viscera, all warmth is suddenly banished from thence, and is succeeded by faintness, nausea, and ejection of the contents of the stomach. Now, as all these phenomena of indigestion are produced by the sole influence of the mind, and as the mind can operate only on the nervous system, it naturally follows, that the process of digestion must be chiefly under the management of the nervous system.

The last argument I shall trouble the reader with, against the probability

bility of digestion being performed by a dissolvent menstruum in the stomach, arises from the consideration, that such a menstruum, being derived from the general mass of juices, should be more or less pure, and consequently more or less active, in proportion to the purity of the juices from whence it derives ; but, on the contrary, we find, that where the general mass is most impure, as in scrophulous, leprous, and other cases of original taint, the supposed gastric liquor, or menstruum is most active in digesting the food ; or, in more just terms, scrophulous and leprous people have the best digestion. But it is also very worthy of particular remark, that though the impurity of the juices does not impair the powers of digestion, the least disturbance of the nervous system interrupts, and, if continued, destroys it,

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The electric and attractive power of the stomach extends not only to the extraction of the phlogiston from the various articles of our food, but also to the retention of that food, whether liquid or solid, vegetable or animal, firmly and quietly to the bottom of the stomach, during the process of digestion; inasmuch, that however violent the motions of the body may be, which, unconfined by such an attractive power, would certainly produce in the stomach the most nauseous jumble of its contents, a healthy person, accustomed to the exercise, will, without any unpleasant consequences, and even immediately after a hearty meal, ride the hardest trotting horse; he will vault, he will stand on his head, yet all the contents of the stomach keep firm and quiet; nothing moves, or changes its place there. The powers by which a healthy stomach thus

thus vigorously attracts the food whilst it is extracting the principle of life from it, seem to be connected, and to depend on one and the same cause; which cause must be the moving principle residing in the nerves, for it is evidently under the dominion of the mind. But though we deny that digestion is performed by means of a specific, appropriated menstruum, yet some fluid is certainly necessary to render the powers of the stomach efficient; and fluids that are the best conductors, and best qualified to facilitate the extraction of the ethereal spirit from the food, are in healthful stomachs the best assistants to digestion—water, the simplest fluid, is therefore the best assistant, in a vigorous stomach; in a weak cold stomach, spiceries and cordials are preferable.

C H A P.

C H A P. VIII.

On the stomach, and its offices.

EVERY living thing, vegetable and animal, possesses the power of attracting to itself the ethereal animating principle from the earth, the water, the atmosphere, and from all such other substances as nature has destined for their nourishment ; and as this power ceases only with life, is strongest when life is most vigorous, and diminishes in proportion as life becomes weak ; this power seems really to be *life itself*.

In the vegetable kingdom, the power of attracting ethereal fluid is so vigorous in some large plants, as to kill the smaller ones that are within their more powerful vortex, by drawing off from them that necessary portion of the vital ether, which

which all healthy plants require. The animal stomach possesses a power similar to the above, but infinitely more active and vigorous; it extracts this same ethereal principle from all substances, animal or vegetable, which are proper for food; and together with vital ether attracts at the same time the more subtile particles of the compound substance, in which it is involved and combined. The rest of the food forms excrementitious matter, and passes by the anus: thus it is that whatever deserves the name of food, or nutriment, is decomposed by the digestive powers of the stomach, loses all its original character, and forms, by new arrangements of the same materials, a mild, milky, spirituous liquid called chyle, whilst the grosser remains constitute the fetid excrements of the bowels. Medicines never digest in the stomach, that is,

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they preserve, even in the focus of digestion, the characteristic peculiarity of their nature and composition; they may be dissolved, but they cannot be digested, or decomposed: if they were digested, they would instantly cease to act as medicines. Poisons are in the same predicament; they are not digestible in the animal stomach; if they were digested, they would lose the criterion of their nature, and cease to be poisonous. It is perhaps superfluous here to repeat, what must be familiar to the understanding of most of my readers, that a *poison*, and its *antidote*, are formed out of the same materials, and differ only in the proportion, arrangement, and combination of the same elements of nature; hence it is that the same foot square of earth, produces the strawberry and the deadly nightshade; the one a digestible nutriment,

ment, the other an indigestible poison. The juice of the laurel leaf, produces all its horrid effects without losing its distinguishing flavor, and without entering the lacteals; the same may be said of opium, of arsenic, of the bark, of steel. I am hence tempted to infer, that the most powerful antiseptics, opiates, cordials, bracers, as well as all poisons taken into the stomach, produce their effect by their operation on the stomach only. This opinion seems to be in a great measure confirmed by the following ingenious experiment. A quantity of salt of steel was introduced at once into the stomach of a dog; after waiting a sufficient time, several hours, to allow the powers of digestion to exert themselves upon it, the dog was killed, was opened, and the chyle was carefully and dexterously abstracted from the chyloferous vessels, in order

der to discover, whether the salt of steel in its dissolved state, had entered into the lacteals, and impregnated the chyle ; but though some very ingenious experiments were instituted for that purpose, not the smallest trace of steel could be discovered in the chyle. In fine, the opinion which I would endeavour to establish is, that the nervous fluid being the instrument which performs or governs all the functions of life, and that fluid being collected and distributed through all the animal frame by the stomach, all the animal frame, solids and fluids, may be most powerfully operated upon by whatever makes a strong impression on the sensibility of the stomach ; and consequently to perform the office of a medicine or of a poison, it is not necessary that either the one or the other should enter the lacteals, and join the tide of circulation ;

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culation ; for the circulation, as well as the texture of the animal juices, being the work of the nervous or etherial fluid alone, circulation may be stopped entirely, and the texture of the juices entirely dissolved, only by making certain impressions upon the stomach, the source from whence that fluid is derived and distributed : such are the fatal impressions which are made on the stomach by certain poisonous matters. The effects produced by cordials, bracers, nutriments, opiates &c. when applied properly to the stomach, are exactly the reverse of the former ; the impression they make on the stomach increases its powers of collecting and of distributing the etherial principle ; and by that means they operate on the whole animal frame, as instruments of health and vigour. But although the stomach is almost the only channel by which salutary impressions can be

made

made on the nervous system by any thing in the character of medicine; impressions of the most fatal nature may be suddenly made upon the nervous system by other channels. The venom of a serpent is applied to the naked, wounded nerves.—All infections wafted by the atmosphere probably affect the nerves first on the surface of the lungs; the venereal poison affects the nerves, where they are laid bare, by excoriation; or where they are least covered, on the surface of the lips, and of the glans penis. When the scarf-skin is turned aside, or raised, the nerves under it may be affected by the variolous poison: generally speaking, all these different kinds of matters which are infectious, and fatal when applied externally to naked and wounded nerves, are harmless when taken into the stomach, where they are digested and decomposed, and where they

consequently lose all their characteristic qualities.

It may be objected by the medical reader, that the colouring principle of madder enters the lacteals of hogs without being decomposed, as has been proved by these animals fed at certain places, where they eat considerable quantities of that root, and whose bones in consequence are found to be deeply tinged with the same colour: besides, the animal urine, and probably all the animal juices may be impregnated with the essential effluvia of certain things used as nutriments or medicines. But without entering farther into a disquisition merely philosophical, I will only beg leave to observe, that the colouring principle of madder is probably as mild as the lacteal juices, and that essences may penetrate the body perhaps by other passages than through the process of digestion and chylification.

C H A P. IX.

The electric powers of all organized bodies; the universal agency of the ethereal or nervous principle, in the œconomy of health, and in the production of diseases, &c.

THE nervous or electric fluid, when collected by the stomach, passes to the extremity of every fibre and vessel; at the surface of the skin it escapes with some highly attenuated juices, in which it is embodied, and is there known by the name of Sanctorian perspiration: that portion of it which pervades the intestinal canal, is probably the cause of the peristaltic motion of the guts. In general, the nervous spirit animates and braces every fibre. The want of a due proportion,

tion, and proper circulation of which, induces a state of relaxation; and whatever increaseth its proportion up to a certain point, and renders the body more capable of attracting, retaining, and conducting it in suitable directions, deserves and obtains the name of a bracer.

Although there may be a plenum of the ethereal principle in all the regions of creation, and although all bodies possess a certain portion of that principle; yet living bodies, vegetable and animal, have the power of attracting and retaining a proportion suited to the functions of their nature, far beyond that which dead matter possesseth.

This fluid, then, which in motion directs and conducts circulation, and, in a more intimate connection, under the name of phlogiston, is the cement of both solids and fluids, may in both these capacities, as has already

ready been observed, act as a sentient principle, communicating to the whole electric frame, sensation from any point, as from a center. And such being the importance of this fluid in the animal œconomy, it may be considered as the chief instrument in the preservation of health, and in the production of disease. An extraordinary diminution of this ethereal spirit, will induce a sense of debility and faintness; and the diminution may be carried so far as to produce a stagnation of the juices, and mortifications in the solids of the body, together with a dissolution and putridity of the whole; as seems to be the case in very malignant fevers. This ethereal fluid is not only the acting principle in all the phenomena in the animal œconomy, but it seems to be the guardian of life and of health; the quantity and condition of which

must be first affected, before any injury can happen to the animal machine. For this reason it is, that the onset of every disease is accompanied with such symptoms as sufficiently prove that the regular motion of the animal spirit, from the center to the circumference, is disturbed or inverted; hence sickness, nausea, bilious vomitings, giddiness, lassitude, debility, faintness, &c. are equally the consequences of the bite of the venomous animals of the East*, of the application of febrile

* The Abbé Fontana says, that poisons operate on the blood, not upon the nerves; and gives in proof, that having bared a very large nerve of some animal, he applied the Indian poison to the round body of that nerve, keeping the neighbouring parts protected from the poison; the consequence was that the animal felt no ill effects from the poison. By the same mode of reasoning the Abbé might have proved that the idea of light is not conveyed by the nerves, but by the fluids in the

febrile infection, of the malign influence of an unhealthful and tainted atmosphere, which, upon some occasions, seems to destroy the electric powers of the body : and, lastly, of the operation of the depressing passions of fear, grief, &c. by all which the due portion and agency of the vital principle may be disturbed, and even destroyed.

Now, although it cannot be doubted, that all these causes produce

the eye, because having taken out these fluids, and directed the rays of the sun upon the naked body of the optic nerve, no sense of light will be communicated—also the tongue when excoriated, is insensible of all distinction of taste ; to produce either of these ideas, the nerves must be touched in a certain manner, or through a certain medium.—It is not the external hard, round chord, formed by the membranes of the brain, but the soft medullary substance of the nerves, that properly receives and communicates impressions ; a wounded nerve most fatally receives and communicates the effects of certain poisons, which are harmless when any other way applied.

similar

similar effects, and in a degree equal to the power by which each is capable of disturbing, the proper motion, or dissipating the due proportion of the nervous ether; for in that way only it is that the mind can act upon the body: yet how, and by what mechanic means it is, that the venom of a serpent, the infectious matter of a malignant fever, the influence of a tainted atmosphere, or the depressing passions of the mind, do draw off and dissipate the nervous spirits is equally out of the reach of investigation, as is the power by which iron is capable of withdrawing the electric principle from a cloud, when overcharged with it: they are, however, facts which can neither be doubted nor explained: but that the juices may stagnate by a diminution of the conducting power, or fall into putrid dissolution, by the dissipation of the uniting principle,

ciple, is neither difficult to be understood, nor explained. A kind of proof of this theory arises from the practice in such cases ; the best medicines being those that most effectually and most speedily restore to the stomach the power of collecting and distributing the ethereal principle ; which is best done by vomits, the Peruvian bark, cordials, and fresh air. Topical applications for the bite of venomous animals I speak not of ; nature having commonly provided, and experience discovered, some specific in that way, wherever such animals are found.

C H A P.

C H A P. X.

The same subject continued, with illustrations.

THE regular circuit of the ethereal spirit, from the stomach to the circumference of the animal machine, seems to be essential to health, and to the continuation of life; for when any thing infectious, venomous, or poisonous, is applied to the body, its first effect is to interrupt the progress of that spirit in its aforesaid circuit. The pores are immediately shut up, perspiration ceases, the peristaltic motion of the bowels is disturbed, atony, nausea, vomitings ensue. Whatever, therefore, contributes to restore the natural tide of this fluid when interrupted, and to renew its course from
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the centre to the circumference, bids fair to prove a remedy in most diseases. But as the cause that disturbs this circuit may be different, so should the remedy be. When the interrupting cause arises from the unfriendly stimulus of some acrid matter in the region of the stomach, suitable evacuants will prove the most efficacious sudorifics, and febrifuges. Sydenham, gives us an instance of the prodigious commotion and disorder in the nervous system of all those on whom the infection of the plague fell ; he says, that so enormous were the vomitings in the plague, that he could administer no internal medicines ; but he cured the vomitings by such external applications as induced a sweat ; that is, by recalling the natural flow of the nervous fluid to the surface of the skin, the stomach recovered

vered its electric powers, of collecting and distributing the ethereal spirit.

As almost all acute and chronic diseases are ushered in by the loss of perspiration, its return may be generally considered as the harbinger of health, and the test of crisis. At the same time, there is good reason to believe, that the the insensible or Sanctorian perspiration itself, is no otherwise important than as it is the consequence of a complete circulation ; the salutariness of visible perspiration also arises from its being the concomitant circumstance and proof of the free and regular transmission of the moving principle, by which the progressive motion of all the fluids is continued throughout every part, and all the operations of the animal oeconomy dependent on that, proceed as they should. In
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this instance, as in others, the visible evacuation of visible fluids by the pores, is only the covering and consequence of the escape of the invifible agent, the ethereal conducting spirit.

C H A P. XI.

*Of menftruation in females ; its caufes ;
and how the fame caufes operate in
men.*

IN the courfe of our inquiry into the operation and importance of the ethereal fluid, in the production of the phenomena of health and of difeafe in the animal œconomy, that periodical one to which the female fex is fubject, offers itfelf as one of the moft fingular, as well as moft important phenomena ; for it is that on which apparently the continuation of the whole human fpecies, as
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well as the health of the female part of it, in a great measure depends ; I mean menstruation. The various doctrines for the explanation of this subject have been successively abandoned, and at present, I believe, it is not comprehended in any theory ; at least of this I am certain, that it is absolutely inexplicable upon the principles of any modern theory, that has come within the compass of my reading. A due attention however to the phenomenon, and its concomitant circumstances, seems naturally and by an easy path, to lead us to the general cause.

This evacuation is not in consequence of an effort of nature to discharge from the juices something acrimonious, and offensive to health ; for the blood discharged in menstruation is in its nature mild, as the general mass from which it flows. The evacuation is not the consequence

quence of plethora; for repeated, and copious bleedings, will neither prevent it, nor atone for the want of it. And another proof that menstruation does not originate from plethora is, that in cases of obstruction, a few drops of blood spontaneously distilling from the nose, from the corner of the eye, the ear, the end of a finger, especially if such discharges happen at the usual periods of menstruating, seems, in regard to the health of the individual, to answer all the salutary ends of a more copious and natural menstruation. The late ingenious Dr. Whytt, already mentioned, in his treatise on nervous diseases, gives a singular instance of this, in the history of a female, who, the monthly discharge by the uterus being obstructed, had, every twelve or fourteen days, a small hæmorrhage from the left ear, which continued without interrup-

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tion or diminution, though she lost by the lancet forty ounces of blood in one month.

In the same author there is an account of another case no less extraordinary, viz. that of a woman who, six weeks after bearing her second child, was seized with a pain in the middle of her fore arm, striking down to the middle finger of her left hand. Next day, she felt a pain in the point of that finger, whence issued about four ounces of blood. At the distance of twenty-four hours she lost near an ounce of blood in the same manner; and notwithstanding she was repeatedly blooded, yet for some days, almost at the same hour, this hæmorrhage returned, but always in smaller quantity. In this woman the lochia or discharges natural to lying-in women had stopt soon after the delivery; and nature
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in this manner seemed to compensate the defect.

In some irregular cases, instead of a sanguineous discharge, one of a white colour makes its monthly appearance, which in its effects seems to be equivalent to the other in every thing, except in what relates to the continuation of the species. Women seldom breed under such an irregularity.

In consequence of menstrual obstruction, the female is generally attacked with hysterical and other nervous symptoms; and the nervous system seems so remarkably affected by all that relates to menstruation, that I am led to that quarter to look for the cause of it.

That there are men subject to discharges of a nature similar to menstruation in women, and which seem to be governed by the same periodical influence, may be learnt from

two cases in the Philosophical Transactions, No. 171, and No. 272. The first is, the case of a man who had a flux of blood from the thumb of the left hand every full moon, to the amount of half a pound; and the other is the case of a man who had a flux of blood every month from the first finger of the right hand, to the amount of four pounds.

That menstruation, the hæmorrhoids, and the gout, are, in some cases, in succession to each other, and in the constitution answer the same purpose, and originate from the same cause, viz. a periodical commotion in, and a redundancy of the nervous spirit, will appear probable from the following instance, also related in the Philosophical Transactions, No. 337. A woman lived at Lamerton, near Plymouth, and died at the age of eighty-six. She continued to menstruate until
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seventy; when that discharge left her, it was succeeded by a similar one from the hæmorrhoidal veins, which continued until she was past eighty. She was, till then, healthful and strong, of a vigorous aspect, smooth, plump, and florid in countenance, like one not half so old. When the hæmorrhoids failed, paroxysms of gout succeeded. She was never sick before the hæmorrhoidal flux ceased, except once, when she was seized with the plague, which terminated in a critical abscess, during which sickness she continued to nurse a male child, who lived to be of the faculty, and gave this account of his mother

Another fact, proper to be recorded, is, that often amongst women, ulcers, and sometimes cuticular eruptions, succeed to, and apparently compensate for menstruation, when that happens to be obstructed,

or terminated : and that such ulcers or eruptions are observed to have an extraordinary discharge at each return of the menstrual period, or of the great changes of the seasons ; and these discharges keep off, in a great measure, the ill consequences of a deficiency of the regular flux of menstruation ; not, however, by venting any thing acrimonious ; for, as it does not appear that any thing acrimonious is, by the obstruction of the menses, retained in the body, we have no right to suppose, that to compensate their loss, something acrimonious must be discharged from it.

From the foregoing facts and observations it is evident, that a periodical discharge of any kind and from any part of the body, will compensate the interruption of the more common monthly discharges in either sex.

Also

Also it appears from Dr. Mead's inquiries concerning the influence of the sun and moon, that the human frame is extremely affected by certain situations of these heavenly bodies. Now, it is more than probable that, at such immense distance, these luminaries can act only on that ethereal medium that fills the space between them and us; which ethereal spirit being of a congenial nature, communicates with, and creates violent agitations and ebullitions in the subtile, elastic, nervous fluid in our fabric, the impetus of which ebullitions force open a variety of different passages, from whence different humours distil, according to the nature of the juices contained in the vessels through which the impetus happens to make its push out of the body.

An analogical example will illustrate this idea.—When a copious flow of tears effectually terminates an hy-

sterical paroxysm, or composes these agitations to which women of great sensibility of mind, are subject, neither the quantity nor quality of the visible fluid discharged at the lachrymal glands, can be considered as the object or cause of so remarkable a crisis. The preceding symptoms were the effect of an ebullition of the nervous fluid, the impetus of which being directed, by an unexplicable operation of the tender passions, to the lachrymal glands, from thence stimulates the distillation of tears, along with which it effects its own escape.

In short, the ethereal principle seems to be the medium by which alone all causes, external or internal, the operations of the mind, the phases of the sun and moon, or the great changes of the revolving seasons, can affect the juices of the human body. When this principle, in
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its capacity of phlogiston, is too much diminished, as in putrid fevers, &c. a proportionable stagnation and dissolution of the juices, together with mortifications, &c. are the consequences. When, on the contrary, the phlogiston is increased beyond the standard of health, the juices acquire an inflammatory disposition, or too great a tenacity and adhesive quality.—When the same spirit, in its capacity of nervous ether, is easily stimulated, agitated, or disturbed in its progress, the body then becomes liable to all manner of nervous complaints, spasms, gout, &c. and when any sudden commotion is raised in the nervous system of an irritable female, it may terminate at the lachrymal glands in a profusion of tears : or in a spasm, and pain of the side ; a head-ach ; a cramp or gouty pain at the extremities ; a fit of vomiting, or purging ; in short, wher
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ever the impetus of the nervous fluid forces its way, effects will be produced suitable to the part attacked.

I will attempt to exemplify the principle of this doctrine, by a most striking phenomenon exhibited in the frame and fabric of the globe itself, I mean the matter discharged periodically from the burning mountains of the earth. After violent internal commotion, there issues from these mountains volumes of smoke and flame, burning stones, ashes, boiling water in deluges, a whole tide of melted minerals in the form of what is called lava; after these discharges the tumult subsides, and all is quiet.—Now the question is, did nature kindle up this commotion in order to discharge the water, the lava, &c? Are we to suppose that these grosser materials were the offensive matter which the constitution of the

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the earth was labouring to get rid of? or was the whole paroxysm owing to a violent commotion of the elementary fire which pervades the whole earth in common with every part of nature, and the impetus of which commotion, at last forcing a passage for itself from the body and bowels of the mountain, carries along with it whatever it finds in its way.

C H A P. XII.

The cause of menstruation, of the gout, and other periodical commotions and evacuations, farther illustrated, and proved to be the same.

A Periodical ebullition of the moving principle seems natural, and therefore necessary to all the human species, males as well as females ;

females ; the more delicate the mechanism of the fabric, the more frequent are the returns of the ebullition, and the more visible and extraordinary are the effects.

The peculiar texture of the female frame has subjected women to a monthly agitation of the nervous system : probably, and according to the general notion, of both the learned and vulgar, this periodical commotion is under lunar influence ; the impetus of which agitation opens the vessels of the uterus, and produces menstruation ; and nature, availing herself of what may properly be termed an infirmity, converts it to a purpose essential to the preservation and increase of the human species. The matrix, thus bathed with the periodical tide, and replenished with the ethereal spirit, becomes fitted to impart to, and preserve the principle

ple of life in the first rudiments of animal existence *. Sometimes, when sanguineous appearances fail, the fluor albus is forced down, which in some measure answers the purpose of venting the impetus of the menstrual commotion, and of freeing the

* As there are males subject to all the nervous disorders incident to women, and whose frames seem to have inherited or acquired a degree of irritability and delicacy equal to theirs, so far as even to be subject to monthly evacuations ; on the other hand, there are females who possess all the firmness natural to the masculine gender, whose nervous systems bid defiance, in a great measure, to the phases of the moon, to the revolutions of the other planets, and, in general, to almost every thing that is capable of raising the most important commotions in the fabric of the more delicate of the sex. Those viragenous females, even when regular, have hardly more than an appearance of menstruation, and sometimes, without any injury to their health, are deprived even of a shewing, as it is called, for many months. Amongst the northern Scythians, the females are said to menstruate only in summer, so hardened are they by the climate, by inheritance, and by their vigorous mode of life.

female

female from the distressing symptoms which arise from obstructions; but the other great purpose of nature, the keeping of the matrix in a proper state for increasing the species, is never properly answered but by a sanguineous menstruation, when the impetus of the periodical nervous commotion falls on the uterus with due energy, and the blood-vessels there are efficaciously opened by it; but when the tide of the commotion goes but partially that way, a weeping of the glands, an inefficacious fluor albus, only is produced.

When the impetus misses the uterus entirely, strange commotions agitate the female frame according to the nature of the viscus towards which it directs its course; and in gouty constitutions regular fits of gout are the consequence; whereas, during the perfect enjoyment of the menstrual discharge, women, though
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born of gouty parents, are seldom afflicted with that disorder, the gouty commotion of the nerves venting itself periodically along with the monthly one; by which, when regular, a constant equilibrium is preserved in the nervous fluid. In like manner, when lying-in women are deprived of a sufficiency of the lochia, that circumstance also frequently brings on a gouty attack. These facts may serve to illustrate each other; and we may venture to conclude, that as a gouty paroxysm seems to atone for the want of menstruation, or of lochia; and, on the other hand, as menstruation, whilst regular, supercedes hereditary gout, the same agent must be the author of each, and in the constitution they all answer the same end, viz. they all equally, and often alternately, serve to give vent to the ebullitions of the nervous fluid, however excited.

Sedentary

Sedentary men, whose nervous systems are easily affected, and who often possess a feminine delicacy, are liable to a periodical evacuation of thick urine ; which symptom or appearance, as it accompanies the crisis of most diseases, may always be considered as the consequence of some prior ebullition, or commotion in the constitution, which prior commotion, though hardly in the present instance noticed by the person himself, may have been excited by the changes of the moon, the seasons, the weather, the passions, &c.

It has also been observed, that men of more delicate constitutions are seldom subject to the gout, or to any other chronic disease, whilst either the above mentioned monthly evacuation of thick urine, the hæmorrhoids, an ulcer, or a cutaneous eruption, afford an open and ready channel, by which all periodical or occa-

sional ebullitions of the nervous fluid may vent themselves ; and these drying up, are often succeeded by periodical attacks of gout ; all which seem, in most instances, perfectly to supply the place, and to execute the office of each other in the human constitution.

In like manner, a female finds little inconvenience from irregular, obstructed, or even terminated menstruation, if the hæmorrhoids, an ulcer, cutaneous eruptions, or fluor albus, succeed to it ; yet we know that nothing acrimonious is discharged by the menses, and therefore have no reason to suppose that any thing acrimonious is discharged by the ulcer, cutaneous eruption, or fluor albus, which succeed to, and compensate the loss of the menses : which opinion is also confirmed by the following observation, viz. that a few drops of mild blood, periodically

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cally discharged from the nose, the ear, &c. will also compensate menstruation ; but that if neither of these evacuations come to the relief of an obstructed female, or, if having once come, they again disappear, she then is subject to gout, hæmoptysis, dropfy, &c. just as the impetus of the periodical commotion shall happen to turn towards the lungs, the lymphatic arteries, &c.

As, therefore, any of the above mentioned symptoms are capable of relieving, succeeding, and supplying the place of each other, they must all be considered as originating from the same cause, and answering the same end.

Females, whilst young and regular, or whilst they are troubled with hysterical, or other nervous affections, are seldom or never subject to gout ; and hypochondriacal men, and such as are of a very delicate texture,

texture, are also generally exempted from the gout. The reason of these exceptions is probably this, that both sexes, of the foregoing description, being endowed with an extreme irritability of nerves, are liable to suffer certain periodical deflagrations, discharges, or paroxysms, excited by the influence of the moon, the change of the seasons, and other periodical causes, by which stronger constitutions are not at all affected; which deflagrations pass off in young females by the matrix, and in hypochondriac, or sedentary males, generally by the kidneys in a discharge of thick urine; and by these passages every casual commotion of the nervous fluid, which might otherwise have produced gout, &c. is vented. But when, either in males or females, nature has opened other channels, such, for example, as the hæmorrhoidal veins, the surface of

an ulcer, a considerable cutaneous eruption, the fluor albus, &c. each periodical ebullition vents itself gradually as it rises, by increasing the quantity of the ordinary discharge from the parts affected; and thus do these passages serve as safe-guards to the body, in all casual or periodical commotions of the elastic nervous ether; or, to speak in the language of electricity, act in the capacity of fixed conductors, by which the surplus of the ethereal principle is safely discharged from the constitution, which otherwise, by falling in other parts of the body, might have produced gout, hysterics, hypochondriacs, erysipelas, hæmoptysis, apoplexy, &c.

When we observe that gouty paroxysms may be safely discharged from the body by such outlets, it is not unreasonable to suppose, that if art could effect an opening to serve
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in a similar capacity, that is as an outlet or vent for accidental and periodical ebullitions, in that case, gouty paroxysms might with certainty and safety be avoided. Such a plan is certainly practicable, but the success of it will depend upon a proper choice of the part whence the gouty tumult may most readily be evacuated, and on the means or medicine by which an outlet may most efficaciously be opened.

C H A P. XIII.

The same cause exciting different symptoms, according to the nature of the viscus it attacks.

FROM the foregoing observations the following conclusions may be drawn, respecting the popular idea of acrimonious gouty matter in the blood. When in a case of ir-

regular gout, the patient finds relief from the supervention of a gonorrhœa, the hæmorrhoids, or cutaneous eruptions, one ought not hastily to pronounce that the juices flowing from any of these openings, are either acrimonious or gouty; the fact is, that they are the natural juices of the parts from whence they flow, and are forced out upon the surface, by the impetus of the nervous spirit, which is escaping from thence.

Of scorbutic acrimony the same opinion may justly be entertained; for, in general, it is true, that whatever greatly disturbs the nervous system, that is, excites commotions in the nervous fluid, increases all scorbutic appearances; and, on the contrary, whatever composes the irritations of the nerves, proves an anti-scorbutic. Purgings, and mercurials, by weakening and irritating, will often cover a scorbutic

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tic patient all over with eruptions ; whereas theriac. and such gentle opiate cordials, prove a certain remedy for the same disorder. Scorbutic and nervous symptoms, constantly accompany each other ; and although, when two symptoms always appear together, it is difficult to decide which of them is the cause, and which the effect ; there is one fact, however, which will in this case prove a guide to the judgment : agitations of the mind, long continued, will cover that person over with scorbutic eruptions, on whom no such appearances ever existed while the mind was serene. In this case, the cause is evidently the nervous commotion ; the effect, a cutaneous or scorbutic eruption.

Whatever be the exciting cause, the impetus of nervous agitation generally falls on that organ or viscus of the human body which happens

to be the weakest; or where the peculiar byass of the constitution directs it, and the symptoms it produces are suitable to the nature of the part affected; viz. gouty when it falls on the joints; erysipelatous or scorbutic, when it directs its course to the surface of the skin; hypochondriac or bilious, when the impetus vents itself on the region of the liver and stomach; and cough and consumption, when it falls on the lungs. Now, as these two last diseases, hypochondriasis and consumption, are justly considered as endemic in this country, the cause of both may fairly be deemed the same, viz. the frequent, sudden, and violent changes of the weather. One hour, the genial breezes of the south allure the ethereal fluid to the surface of the skin, in the most salutary form of insensible perspiration; the next, it is repelled by the severity of an

an easterly blast. Thus checked, agitated, and driven from its natural course, and no drain open, such as hæmorrhoids, eruptions, gonorrhœa, &c. by which the commotion might immediately vent itself, it is not at all surprising that the obstructed tide of the elastic spirit should frequently rush upon the lungs, which are directly exposed, by their office, to all the severity and inconstancy of the atmosphere; and in this manner may create both cough and consumption: or that the excited commotion falling on the gastric region, should give rise to all manner of hypochondriac symptoms. In proof of this doctrine, we find that by a metastasis of impetus, from the gastric region to the lungs, the hypochondriac disease often terminates in, and is superseded by a consumption; and that by another metastasis of the same cause, from the lungs to the brain, a formed consumption suddenly

denly disappears, and is immediately succeeded by madness, or an established delirium; and that the most certain cure for both hypochondriasis and consumption, is an early migration to a serene, warm climate; the more southern, the more certain the cure. And it is much to be regretted that this advice, which ought to be the first, is generally the last, and therefore fruitlessly given in consumptive cases; for by the influence of a southern climate, the tide of the ethereal fluid is recalled to its natural channel, the surface of the skin, where it vents itself in salutary diaphoresis; and the attack upon the lungs or upon the region of the stomach ceases, together with every consumptive or hypochondriac symptom*.

Hæmop-

* In hot countries, where the flow of the ethereal fluid to the surface of the skin is strongly encouraged, the tide of nervous ether is not liable to be

Hæmoptysis, or spitting of blood, is another of the disorders which very frequently originate from a morbid irritability of the nervous system. Dr. Mertens of Moscow, in an appendix to his accurate history of the plague, which, in the year 1771, in that city, and the adjoining country, carried off a hundred thousand inhabitants, relates three histories of hæmoptysis, which, in their attack, and by their progress and termination, shew that the immediate cause was the tide of a nervous commotion turned suddenly upon the lungs, by which the orifices of some of the pulmonary arteries were dilated. The first two patients,

be disturbed by such things as would, in this cold region, not only produce a stagnation but an inversion of its course. For example, I have known a gentleman use tobacco in Jamaica, with impunity and pleasure, in whom the slightest attempt to use it here, produced faintness, sickness, nausea, and vomiting.

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one a male, the other a female, had been always subject to a variety of nervous complaints; the third a carter, aged fifty years, who had lately been deprived of a daily discharge at the hæmorrhoidal veins, to which he had been accustomed from a boy: in each of them, the antiphlogistic and refrigerating method was persevered in, to a degree hardly prudent, as the doctor confesses, but without the least advantage or benefit to the patient. The doctor's own words are, "Spasmodicam nervorum affectionem, in pulmonibus liberam sanguinis circulationem impediens, morbi causam agnoscens, largum emplastrum vesicatorium inter scapulas apponi suadebam. Elapsis quatuor horis, emplastri irritationem sentire cœpit, & ab hac eadem hora hæmoptysis cessavit." In the second case, speaking of the immediate efficacy of the blister,

blister, he says, “ A prima ejus irritatione, hæmoptoe cessavit.” In the third case, “ Ad vesicatorium confugiebam, quod hæmoptysin statim sedavit.” I have been particular in copying the language of the author, lest the cure might be imputed to the quantity or quality of the humour discharged by these blisters. The cure was performed merely by withdrawing the nervous impetus from the lungs to the surface of the skin. The preceding hæmorrhoidal discharge, mentioned in the third case, I consider in no other light than as the production of a nervous impetus, venting itself by the veins of the rectum ; which vent being stopped, the impetus reverted unluckily to the lungs, and produced a much larger, and more dangerous evacuation from thence. But as the same irritability of constitution which displayed itself in each of them,

would

would naturally subject all these patients to frequent commotions of the nerves, which commotions might terminate again in a spitting of blood, in order to have rendered the cure complete, and to have guarded against a relapse, the blisters ought to have been kept open, or an issue, or other perpetual vent or opening, ought to have been elsewhere made.

C H A P. XIV.

The same cause traced in the production of bilious disorders, acute and chronic—the proper method of treating them.

AMONGST the symptomatic diseases arising from nervous commotion, are all those denominated bilious. A redundancy of bile never happens but from a previous nervous

nervous agitation, and great and general agitations of the nerves seldom fail to produce a redundancy of bile. Hence it is that violent passions, hysterical affections, the bite of certain poisonous animals, the infectious effluvia of malignant diseases, produce evacuations of bile proportioned to the effects they have upon the nerves. The revolution of the seasons, and the full and change of the moon, are known powerfully to affect the nervous fluid; in consequence of which, these revolving periods produce a variety of bilious disorders; hence the common observation, that it is necessary to purge every spring and fall; and hence the bilious fevers and fluxes, that abound every autumn; hence, also, the frequency of agues at these seasons. And in some of the islands in the West Indies, so powerfully does the moon influence the constitutions of those
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who have been much subject to agues, which is a disease of the nervous system, attended with great redundancy of bile, that they find it necessary to take the Peruvian bark every full and change. All these may be accounted *acute* cases of bile.

On the other hand, when the region of the stomach, and more particularly of the liver, are the center to which the daily agitations or corruscations of an irritable system of nerves tend, anxiety, depression of mind, want of appetite, indigestion, broken and unrefreshing sleep, horrid dreams, a sense of general debility, a distinguishing tinge of yellow on the surface of the skin, together with frequent evacuations of bilious matter from the stomach and intestines, are the general consequences, and are denominated bilious symptoms of the *chronic kind*.

In short, the first ill effects of every morbid commotion of the nervous system, are felt at the stomach, whether the cause that occasions it be external, internal, or originates from the mind : hence, it is, that females endowed with more than common sensibility of mind, and acuteness of feeling, however fair and transparent white the skin may originally be, seldom long escape the tinge of yellow, and other symptoms of redundant bile, the certain consequence of the frequent agitations, anxieties, &c. which the delicacy of their frame exposes them to ; for in order long to retain a clearness of complexion, and the appearance of youth, which some do, to an advanced age, the nervous system must either be constitutionally firm, and little apt to be agitated or shaken, or all cause of irritation be effectually guarded against and avoided ; or there must

be a constant vent, remote from the biliary region, always open and ready to let out these ebullitions and commotions of the nervous fluid the moment they are excited; and such a vent are the hæmorrhoids, a fluor albus, an ulcer, &c.

Amongst various unheeded causes of nervous distress, and all its consequences, is the habitual use of tobacco, to persons of an irritable frame; which, although by the force of practice, it may cease to excite actual nausea, sickness, and vomiting, fails not so far to disturb the stomach and gastric region, as to prevent appetite, interrupt digestion, and to produce every other symptom of gastric indisposition, accompanied with anxiety, peevishness, and yellowness of the complexion. A gentleman, who has long used it in considerable quantity, owned, that though it no longer produced sickness,

ness, yet when taken before dinner, it created heartburn and sourness in his stomach: but the dinner and wine acted as opiates, and enabled the nerves to resist the unfriendly stimulus of the tobacco.

All these observations increase the probability of the supposition, that the stomach collects and transmits the nervous fluid—for when an unfriendly stimulus occasions any degree of obstruction or irregularity in the channels by which that fluid is transmitted from the stomach, through every part of the body, the effect of such interruption is and must ever be first felt at the source from whence the fluid issues, which is the stomach. And when the stimulus is in a very considerable degree, and very unfriendly, a total cessation of the transmission of the nervous ether from, or even a retrograde motion of it towards the stomach, may en-

sue ; when, instead of moving from the center to the circumference, it will take the opposite direction, and the gastric region become the center of the impetus, with sickness, nausea, bilious vomiting, &c.

But although by nervous commotion bile is thus generated, yet when once extravasated, it becomes a powerful stimulus itself, to which a multitude of new symptoms owe their existence, and by which all the original ones are greatly exasperated. Amongst the last, is the interruption of the peristaltic motion, which the unfriendly stimulus of the extravasated bile renders more obstinate, and which will continue, until, by some suitable means, the ethereal fluid again acquires a progressive movement, and is transfused with efficacy, through these parts ; by which transfusion, the proper motion of the intestinal canal will be renewed,

newed, and its contents, together with the stagnant bile in the hepatic system, will be precipitately expelled, the bile acting as a stimulating purge, to hasten its own expulsion.

Sometimes, owing to its situation, the bile passes off by the kidneys instead of the guts: so that the same remedy, which in one case occasions the expulsion of the bile in loose stools, in another case, apparently not different, will terminate the disorder by a flow of deep-coloured urine, which, on standing, drops a copious red sediment.

From this account of the general cause of bilious complaints, it is evident that their cure is to be effected in the following manner.—First, the bilious matter collected, and which, whilst it remains about the stomach, liver, &c. will aggravate every symptom, must be evacuated, but

by such means as do not irritate the nervous system. All rough purges, such as castor, oil, emetic tartar, and calomel, though they purge off the contents of the viscera, and the stagnant bile along with them, they irritate, by the roughness of their operation, the nerves into fresh commotions, which occasion fresh accumulation of bilious matter; and the observation of this fact has given rise to the vulgar maxim and opinion, that bile generates as fast as it is purged off; such medicines therefore, will readily remove occasional accumulations of bile, but will prove no cure for bilious disorders of a more chronic and habitual nature.

The second indication is, to compose the nervous agitations, to remove all irritating causes, to give firmness to the abdominal viscera, together with a proper direction and progressive motion to the subtile,
 etherial,

etherial, conducting principle, so that it may be efficaciously determined to a happy exit, in the form of Sanctorian perspiration, at the surface of the skin ; which perspiration is ever deficient in all bilious, as it is in all gouty, and other nervous cases. Indeed it may be admitted as an axiom in physic, that a hard dry skin is generally the concomitant of all disorders in the nervous system.

C H A P. XV.

Rationale of a gouty paroxysm—Causes of it hereditary, but sometimes diverted into other channels, producing other diseases.

HAVING thus, in a cursory way, remarked upon some of the most important phenomena of
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health and of disease, in which the nervous fluid seems to be the principal, probably the sole agent, it remains to trace the same principle in the formation of these symptoms that are arranged under the name of Gout.—And the arguments already adduced against the popular notion of a peculiar kind of acrimony existing in the juices of gouty people, and distinguished by the name of arthritic matter, will, it is hoped, facilitate the reception of our theory.

From Dr. Whytt's account of both disorders, it is evident, that an irregular gout is not distinguishable from hypochondriasis, and other nervous disorders of the chronic kind. This remarkable sameness in the symptoms gives good reason to presume an equal sameness in the causes of both disorders. To this may be added another remark, that the predisposing causes of gout are precisely such

such as most eminently debilitate the nervous system, and are the general causes of a morbid irritability of the nerves; such as being born of parents subject to hysterical, hypochondriacal, or other nervous affections, from whom an hereditary mobility of the nervous system has been derived; a sedentary life, anxiety of mind, excessive venery, intemperance in eating and drinking, and perseverance in the use of acid liquors*; an interruption, or a termination of the female periods; cessation of the hæmorrhoidal discharge, &c. Such are the predisposing causes.

The proximate causes are all immediately stimulative of the nervous system, viz. the great periodical revolutions of the seasons, spring and autumn, violent debauches in eating or drinking, fits of anger, of fear,

* In the cyder counties, gout rages amongst the labouring people.

of sorrow, &c. any sudden shock of the mind, extreme cold, &c. all these act with more or less violence upon, and occasion more or less agitation in, the elastic nervous fluid

It has been already observed, that the impetus of all nervous commotions usually directs its course to that part of the body that is weakest; though it must also be acknowledged, that other causes, too subtle for investigation, seem to influence its direction, in many instances, to parts not apparently weaker than they ought to be. For example; who can assign a reason why the passion of grief directs the tumult it occasions to the lachrymal glands, terminating the paroxysm in a copious flood of tears? or why, in women, the menstrual ebullition should be directed to the uterus, thence passing off in a sanguineous evacuation? or in cases
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of obstructed catamenia, by what peculiar predilection the menstrual ebullition should obstinately persist in passing off in a sanguineous eruption, sometimes from the nose, sometimes from the lungs, the ends of the fingers, &c. though large and repeated evacuations of blood are at the same time made by the lancet. In like manner, although the immediate cause by which the gouty tumult is conducted to some joint of the extremities, is obvious and intelligible, there is, probably, in all gouty constitutions, another invisible cause, a peculiar inexplicable bias, or tendency, which may, and probably does, powerfully co-operate with the first and most obvious : hence it is, that when this predisposing gouty bias exists in the constitution, no system of temperance will save from the gout ; and no system of intemperance will produce the
gout,

gout, where such a byass does not exist.

The visible and immediate cause of the pain and inflammation in a regular fit of the gout is, the large quantity of bile discharged into the intestinal canal, by the previous disorder in the gastric region, which precedes every regular gouty paroxysm.

Now, it is the known property of bile in the intestines, to create sympathetic pains in all the joints, particularly those of the extremities; as may be observed in hysterical and bilious colics, in certain fevers of the bilious kind, &c. and that great evacuations of bile into the intestinal canal are common in every regular fit of gout, is well known; and that the most probable time for such evacuations to be formed, is that particular period preceding the pain of the joint, when the gastric and hepatic regions are
most

most affected. Bile, therefore, I consider as the chief instrument in conducting the gouty impetus to terminate in a spasm of the ligaments, and tendons of some joint of the extremities, and also to support an erysipelatous inflammation on the joint attacked. It is no objection to this opinion, that every evacuation of bile into the stomach and intestines, even in gouty constitutions, does not always produce a fit of regular gout; it sometimes occasions only an erysipelas, and sometimes goes off in a diarrhoea; for to produce always the same effect, the cause ought to be accompanied always with the same circumstances. But who can at any time say, except from consequences, that the proper cause operates, and that all the necessary and usual concomitant circumstances attend inflexibly, to produce a paroxysm of gout, or indeed any other effect in
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the animal œconomy? But that there is also, besides the stimulative and sympathetic effects of the bile, a certain bias in some constitutions, indeed in all gouty constitutions, to terminate every nervous commotion by a spasm in the joints of the extremities, appears more particularly from this, that there are many examples of men, who, from an extreme weakness and irritability of the nervous system, acquired or inherited, have suffered every degree of nervous agitation, and yet have never been threatened with a single gouty attack.

These observations may lead to a determination of the question, is the gout an hereditary disorder?

I answer without hesitation, that the gout is certainly an hereditary disorder. Though the children of gouty parents may not have an actual regular fit of gout, yet be their temper-

temperance ever so great, before the males arrive at the age of forty, and the females cease to be young, their constitution will exhibit evident proofs of an innate gouty disposition. If one of the parents only was gouty, the appearances of it in the children may be less decisive, and in such a case it may deviate into hypochondriac, bilious, hysterical, or nervous symptoms; or may vent itself occasionally in erysipelas, hæmorrhoids, fluor albus, gonorrhœa, gouty eruptions, &c. &c. or by seizing on the lymphatics, the gouty impetus may occasion such a discharge of lymph as to produce a dropsy, or a consumption by attacking the lungs; but certain it is, that sooner or later the children of gouty parents will exhibit unquestionable proofs that their constitution is characterized by the infirmity of their family.

C H A P.

C H A P. XVI.

Why a gouty paroxysm occasions general debility only when it attacks the stomach

AS in the animal machine there must be a constant waste, so must there of necessity be a means of procuring a constant supply of the ethereal conducting principle. This office seems to be assigned to the stomach, and it is this circumstance that particularly constitutes that viscus, the sensorium, where every disturbance of the nerves is immediately felt. Whatever agitates the nervous system, must in some degree, interrupt the regular course of the ethereal tide from the stomach; and in proportion as that spirit is impeded or interrupted in its course
through

through the body, it ceases to be collected at the center. In consequence of this deficiency, the capillary vessels are no longer distended as they should be, and as they are whilst the electric fluid passes along their surfaces, in its regular course, and in due proportion; the juices proceed with difficulty, and a sense of oppression and anxiety is felt throughout the gastric region. Amongst valetudinarians, this difficulty of circulation awakes a variety of aches and pains, and renews all the chronic complaints to which at any time they may have been subject. The same symptoms arise from that deficiency of electric matter, which is the constant attendant of an east wind. In some instances, one is tempted to believe that an inversion of the regular and natural motion of the conducting principle has taken place; and that the stomach, instead of distributing,

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buting, and supplying the vital principle to every other part of the body, becomes the point to which it tends in a retrograde way, and from whence it makes its escape, in paroxysms of nausea, bilious evacuations, vomiting, &c. all this happens when a fit of the irregular Gout attacks the stomach. And this seems to solve the question, why the Gout occasions faintness, nausea, and debility of system, when it attacks the stomach, which, when it attacks any other part of the body, produces inflammation, together with an increase of spirits, vivacity, &c. For in whatever other part of the body the impetus of a gouty or nervous commotion falls, and even however near to the stomach, so that it be not immediately in it, that viscus will proceed in its office of collecting and distributing to the body the due quantity of the conducting spirit, sufficient

sufficient to carry on circulation, and to animate the machine.

If the impetus falls on the lungs, a spitting of blood, a cough and a consumption is the consequence; but the spirits are then generally good, no sense of languor, &c.—If it vents itself at the lymphatics, it produces a dropsy; still however the spirits are good, there is no sense of debility, and the appetite is even greater than usual.

In establishing the supremacy of the stomach, I do not mean to annihilate the importance of the brain. It is the brain that furnishes the medullary substance which seems to be the only medium through which the ethereal spirit can act as nervous fluid, and convey to the mind just ideas of external objects.

C H A P. XVII.

The progressive symptoms of a gouty paroxysm enumerated and accounted for.

THESE observations premised, we proceed, upon pretty firm grounds, to suppose the following to be the rationale of the origin and progress of a gouty paroxysm.

In all gouty constitutions there is evidently an acute irritability of the nervous system, which irritability, during the paroxysm, is in the extreme; in so much that Sydenham observes, that a fit of Gout may with propriety be termed a fit of passion. It is of no importance to the present question, whether the gouty irritability of the nervous system, and mobility of the nervous fluid

fluid which I am now speaking of, have been inherited from the parents, and consequently are qualities annexed to the original mechanism of the fabric, or have been acquired by intemperance, &c. for upon such a morbid irritability, however acquired, any of the causes already enumerated as the immediate stimuli of nervous commotion, may induce a gouty paroxysm. The first effect of the stimulating cause is an interruption of the usual salutary progress of the active principle towards the surface of the skin; and therefore this, like most other disorders dependent on the nervous system, is ushered in, and accompanied throughout, by a total loss of the Sanctorian perspiration. The disagreeable consequences of this alteration are first felt at the stomach, from whence the active principle commences its course, and about the hepatic region,

producing inappetency, flatulency, and a variety of alarming symptoms, that give earnest of the approach of the fit. From these perturbations in the hepatic region, there is generated a very extraordinary quantity of bilious matter, part of which gets into the intestinal canal, but the greater part is, by the general spasm at that time existing, stopt in the ducts and glands of the gastric and hepatic region; now as it is the constant and known effect of bile in such a situation, to excite cramps and spasms in all the extremities, especially in the legs and feet, we have a right to suppose that it is this circumstance which directs the impetus of the whole gouty commotion to the ligaments and tendinous membranes of some joint in the extremities, where, in the form of a violent cramp or spasm it fixes with intolerable pain. Towards this sympathetic
spasm

spasm the whole impetus of the nervous commotion is naturally directed, and then expends itself in swelling, and inflammation. The course of the nervous fluid towards the extremities being thus renewed, the stomach gradually recovers its powers of collecting and transmitting the vital principle, and the preceding inappetency, &c. gradually vanish. To draw the impetus of the nervous fluid towards any particular part of the body to the relief of any other, is an act of revulsion.

In this way it is, that the term revulsion ought to be understood when applied to Gout, or other nervous cases. In this manner when, by any irritating cause, the application of a blister for example, an extraordinary flux of juices is determined to one particular part of the body, it ought to be understood that

the nervous, sentient, vital principle alone feels the stimulus, and is called by that stimulus to the part irritated from whence it gradually vents itself, together with the grosser fluids it meets with near the surface.

The pain and spasm of the Gout, in the membranes and ligaments of the joint, continue, with intense severity, during the space of twenty-four hours, or thereabout; at the end of which period they generally abate, part of the impetus of the commotion, the immediate cause of the spasm and pain, being transferred to the skin, and adipose membrane, where it produces an erysipelatous inflammation. And now the bile, which had been evacuated into the intestinal canal, or stagnated in the adjacent parts, begins to be absorbed, in proportion as the circulation of the moving principle begins to be renewed in the region of the stomach

stomach and liver, it passes off by the kidneys, and appears in a copious red sediment in the urine. The continuation and exacerbation of the pain and inflammation in a fit of Gout, seems to be chiefly owing to the extravasated bile; for when that is all discharged, and the urine is again become clear, pain and almost every gouty symptom of the recent paroxysm vanish. But whilst there is any remains of the extravasated bile, the erysipelatous swelling about the joint continues, although the spasm and pain of the tendons and ligaments be greatly abated, or even have ceased; and if a very considerable quantity of that hot matter be remaining, fresh gouty attacks are kindled up successively in other joints; and gouty people of a certain age are seldom entirely free from the Gout, because the morbid bilious matter is never entirely dis-

charged from the places where it has been long accumulating.

But sometimes the extravasated bile not effecting a symptomatic spasm amongst the tendons of the extremities, the impetus of the gouty commotion passes suddenly to the skin, and fatty membrane of the face, or to some other external part, and there discharges itself in the form of a genuine erysipelas. And even after a paroxysm of Gout has been fairly fixed upon a joint, in all regularity and form, and has continued there for several days, it is sometimes suddenly transferred to the face, neck, &c. where it appears in the shape of an erysipelas. And this fact gives good reason to apprehend a very great affinity between Gout and erysipelas; and to suppose, that when the pain of the Gout is relieved by the swelling and inflammation of the surrounding integuments, it is owing to
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a translation of the nervous impetus from the ligaments of the joint, to the skin and adipose membrane, where it produces an erysipelatous appearance, suitable to the part affected, and to the bilious nature of the disease.

As it is a fact, that a painful paroxysm of Gout is often superseded by, and alternates with an unpainful erysipelas, we have reason to suppose that pain is not essential to the Gout, but that it is only the consequence of the sensibility of the part on which the impetus of the nervous fluid falls. The same cause produces different symptoms, according to the different parts on which the impetus falls; hypochondriac, bilious, nervous, and jaundice, when it fixes on the region of the stomach and liver; erysipelatous, when on the surface of the skin; a regular fit of Gout, when it de-

termines

termines upon some joint of the extremities exciting pain and inflammation, and when a regular fit of Gout thus takes place of, and supersedes all former complaints, any or all of these other complaints so superseded are supposed to have been owing to a gouty matter wandering from place to place; but strictly speaking there is no better reason to suppose that the former symptoms were owing to an unformed Gout, than for supposing that they were all owing to a latent dropfy, when, as frequently happens, they terminate in and are superseded by an ascites, or anasarca, or some other species of that disease; the regular paroxysm of Gout is only one of the many ways by which the ebullition of the nervous fluid vents itself.

In like manner, after a man has suffered, for many years, a variety of distressing symptoms, affecting the mind as well as the body, and which,
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according to the idea of different physicians, have in turn been deemed nervous, hypochondriac, melancholic, bilious, scorbutic, &c. at last a certain portion of acrid bile finding its way into the intestinal canal, in a proper direction to excite symptomatic spasms in the extremities, and co-operating with other less obvious causes, fixes the whole nervous agitation in some joint, in the form of a regular fit of Gout, and suddenly relieves the patient of all his former complaints; in this case it would improperly be said that the former complaints were all owing to an unformed, irregular, latent Gout?—for, the fit of Gout is no more than a change of impetus, from the internal parts to the extremities. The origin of all these various disorders is in the irritability of the nervous system, and the irregularities of the moving ethereal principle there: the difference

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ence of symptoms is owing to the difference in the sensibility, properties, and uses of those parts in which the impetus of each commotion falls; which impetus is directed often by peculiarity of constitution, as well as by occasional and accidental circumstances. But that no doubt may remain concerning the identity of these diseases, notwithstanding the diversity of appearances, we will make one remark, though by anticipation, upon the means by which they may all be relieved.

As all the above mentioned chronic complaints originate from the same source, viz. the irregularity and interruption of the ethereal principle in its natural course to the surface of the skin, they are all least troublesome in summer, because in that warm season of the year a more regular flow of the ethereal fluid from the center to the circumference
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is promoted, and in consequence, the sensible as well as insensible perspiration is more steadily encouraged, and a more perfect circulation kept up: and, under the still greater warmth of a southern sky, especially within the tropics, the tide of the conducting principle flows with such vigour and constancy towards the circumference, that in general, every hypochondriac, hysteric, and nervous complaint, acquired in a northern clime, disappears in that*. A fit of Gout,

* It may be asked, since the climate of the tropics proves a remedy for nervous complaints, how is it that bilious disorders, dry belly aches, agues, &c. all of which arise from irregularities and interruptions in the distribution of the nervous fluid, are so frequent, and so terrible, in these very regions? The answer is obvious: the tide of the active principle, which, in these countries, is so violent towards the skin, may be turned, with all its rapidity, upon the hepatic and gastric regions, by various imprudencies, by the passions, and by intemperance of every kind, all which must have their operation
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Gout, like a southern climate, proves a remedy for all these disorders, by directing the tide of the nervous fluid from the internal to a particular point on the external parts; by which means the electric, attractive, and distributing powers of the stomach are restored, and all oppression, stagnation, atony, &c. about the gastric region, with all their train of consequences, are for a time removed.

For the same reason, in some fevers, eruptions prove critical, as by them, a regular, progressive movement of the conducting principle, towards the surface of the skin, is acquired. In pestilential fevers, critical buboes act in the same way, when they are sufficiently inflamed to produce a suppuration; they become the point to which the impetus

in every climate, and the violence of their effects will be in proportion to the activity of the principle on which these causes operate.

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of the agitated spirits tends, and from whence it escapes ; and thus restore the electric powers of the animal machine, by giving to that conducting fluid a regular progressive motion from the center. The eruptions which appear about the mouth and nose, at the close of some anomalous fevers, surfeits, indigestions, &c. terminate these disorders by the same means. In short, they all act as powerful revellents, and efficaciously, because they are applied by the hand of nature.

In other instances the impetus directs its course to the guts, and the disorder terminates in bilious purging ; towards the skin, and a copious perspiration affords equal relief ; to the kidneys, and thick water appears to be the crisis.

But nature frequently provides other alternatives for nervous, bilious, hypochondriac, &c. complaints, similar

lar in their effect, but much less injurious to the constitution, more constant, and more certain than the Gout. Such is the occasional flux of blood from the hæmorrhoidal veins, or of a simple gonorrhœa from the urethra, &c. &c. these also act as revelents, by offering a ready and constant outlet to every nervous ebullition; encouraging the ethereal tide in a regular flow from the stomach to the exterior parts, and affording an alternative for the natural passage at the surface of the skin, which, in all cases of irritability, whether gouty, hysterical, or hypochondriac, is in a great measure shut up.

When, therefore, the hæmorrhoidal veins, a gonorrhœa simplex, an open ulcer, an occasional erysipelas, a cutaneous eruption, a regular flow of the menses, or the fluor albus, offer a door constantly open, to give immediate vent to every occasional commotion

motion of the nervous fluids, we may readily comprehend why Gout, and every other nervous symptom, which such commotion might otherwise have produced, is avoided, superseded, or suspended. Let it be remembered, that it has already been proved, that neither the quantity nor quality of the visible fluid discharged at any of these outlets appear to be of any material importance; the benefit arises solely from the salutary change that takes place in the condition of the active ethereal principle in the animal frame.

But if none of the above mentioned conductors, or common sewers exist, or, having existed, have been dried up, or stopt, by art or accident, a fit of Gout is often the alternative, and a most miserable alternative it is. The relief it affords becomes every day more imperfect; the intervals between the fits become gradually shorter; and

these short intervals are filled up with various painful and distressing complaints, which terminate in, or associate themselves with, other diseases infinitely more terrible, painful, and dangerous, than the Gout itself, or any of those it superseded. And we learn from the accurate and elegant account of the Gout given by Sydenham, that as bilious, nervous, and gastric complaints, are at first superseded by, and concentrated into, a regular paroxysm of Gout, so an original Gout ultimately branches away into every distressing gastric complaint.

To the rationale already given of a gouty paroxysm, it may be objected, that it is erroneous, as far as relates to the antecedent disorder in the gastric region, and to the office assigned to the bile; for that, without any previous warning, or disorder in the stomach or bowels,

a person subject to the Gout is often seized with an almost instantaneous paroxysm.

But such fits of Gout are seldom attended with the usual pain and inflammation, and therefore do not afford the usual benefit and relief to the constitution. They ought, properly, to be esteemed only a kind of spurious succedaneum to a regular fit of Gout; the most complete and regular fits being not only attended with some forerunning attack in the region of the stomach, but the paroxysm is accompanied throughout with unquestionable proofs of great accumulation of bile; such as unextinguishable thirst, which never exists in that degree, unless from bile in the first passages: and the most regular, as well as the most violent fits, happen at those particular seasons of the year when bilious disorders are most frequent, viz. in spring and

L 3 autumn.

autumn. But thirst, fever, and pain, seldom in any great degree accompany such fits of Gout as make their appearance suddenly, and without a previous course of stomach and bilious symptoms; and, in general, for there are some exceptions, these are no more than inflations, or puffy swellings of the adipose membrane, to which hypochondriac, hysteric, and other nervous patients, are very subject, and which only in this instance are accompanied with a painful spasm and rigidity of the tendons and tendinous ligaments underneath. It is the previous disorder in the gastric region that generates the bile, and it is the bile that produces and fixes the pain and inflammation, so essential to the character of a complete and regular fit of Gout.

C H A P. XVII.

The various modes in which the cure of the Gout has been attempted.

AS the cure of the Gout has been attempted by various, and very opposite means, according to the notion the prescriber entertained of its cause, it may not be improper to mention a few of the most popular and latest remedies; that, by investigating the cause of their ill success, we may be enabled to point out more promising and less dangerous means of relief.

Portland's powder was introduced into this country under the patronage of the noble family whose name it bears. Being hot and spicy, it acted efficaciously on the stomach and bowels; it could not, however, abate

the constitutional irritability of a gouty fabric ; it could not render the body less susceptible of, or less liable to nervous agitation ; but it prevented the first effects of that agitation from being felt, as they ought to have been in a gouty constitution, about the gastric region, and also prevented the usual evacuation of bile, so necessary to direct the impetus of the commotion to the extremities, and fix the inflammation there. Hence it happened, that the force of the tumult often fell elsewhere, very dangerously, and sometimes fatally ; and always producing a variety of alarming symptoms, according to the nature of the part attacked. From a multitude of unfortunate examples this once celebrated remedy entirely lost its reputation and sunk into disuse.

Gum guaiacum, dissolved in cane spirits, or rum, is another celebrated medicine in gouty cases. This gum,
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though it acts like the last mentioned medicine as a warm cordial in the stomach, and by that means equally, perhaps, prevents the first symptoms of a gouty paroxysm from producing their proper effects in the region of the stomach, is nevertheless greatly preferable to the Portland powder in one respect, as it evidently possesses the virtue of an alterative; sometimes opening the pores of the skin, more frequently increasing the peristaltic motion of the guts, and keeping the bowels gently soluble. In these respects, it has greatly the advantage of the other remedy; and, under a more favourable climate, might be of very considerable use in gouty cases; but in this climate, it is impossible to keep the skin sufficiently pervious to answer the end proposed; and the power of gum guaiacum upon the bowels, as an alterative, is too weak to restore the peristaltic motion of
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the bowels when stopt, or evacuate the bile when collected, in an incipient paroxysm of Gout. Besides, such medicines are, in their nature, much too hot to be persisted in with safety; for although, in pituitous, cold constitutions, the injury may not soon appear, yet the daily habit of so pungent a dram must, in the end, be attended with disagreeable consequences.

Mercury, a most potent instrument of physic, has been applied in various ways as a remedy in this disorder, even to the extent of a copious and long continued salivation; but with so very little benefit, that a fit, more severe than usual, has generally succeeded the most cautious as well as the most copious use of mercury: and this must ever be the consequence of administering any thing that weakens and ruffles the constitution, as mercurials evidently do.

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The attempt to procure a free circulation of the nervous ether, and of all the other fluids, by exercising the patient in apartments properly heated by stoves, &c. is a very recent attempt to cure, and is really founded upon a just idea of the nature and origin of the Gout; but, unfortunately, the disposition of this climate must ever combat such a plan, and render it not only unsuccessful, but even dangerous. By such an operation the body is rendered more susceptible of cold, which is one great exciting cause of nervous agitation. By such experiments, also, the impetus of the gouty commotion, when excited, being diverted from its usual course, may fall on the brain, the lungs, the throat, &c. where they will not fail to produce such symptoms as may naturally be expected from an erysipelatous inflammation, added to gouty spasm on these parts.

Some

Some physicians, considering the Gout, rightly, as a mere affection of the nervous system, have, upon general principles, recommended the use of the cold bath, and by that means to brace, and abate the morbid irritability of the constitution. The rationale of this plan cannot be objected to; but to put it in execution, no small degree of boldness is necessary, both in the prescriber and the patient. For so acute is the irritability in some gouty constitutions, that a single dip in cold water would precipitate them into an immediate paroxysm of Gout or gouty rheumatism.

The plan of curing this disease by a severe regimen, and unalterable perseverance in a milk or vegetable diet, is equally impracticable and dangerous. It is impracticable, because no person, not entirely sequestered from all society, and all the occu-

occupations and connections of the world, can persist, with the necessary undeviating accuracy, in either of these diets : and dangerous, because the authors of this plan all agree, that after such a regimen is fairly commenced, the least transgression will be followed by a more alarming fit than any the patient ever before experienced.

In old subjects, such an alteration in diet is totally inadmissible ; and, if so cold and debilitating a regimen was attempted by persons in an advanced age, it would certainly be attended with very fatal consequences.

Doctor Cheyne, who was a celebrated practitioner in gouty cases, and certainly had great experience in the disease, seems to consider and treat the Gout merely as a bilious complaint. He speaks of the cure of the Gout in the following terms.

“ I have

“ I have known,” says the doctor,
 “ some eminent physicians, that in
 “ a fit of the Gout itself, at whatever
 “ time it happened, they never scrup-
 “ pled to drive it off, both from
 “ themselves and others, by strong,
 “ quick, and active purges, which
 “ they repeated every morning whilst
 “ the fit continued; and, at night,
 “ quieted the tumults they excited,
 “ and expelled the gouty humours
 “ introduced into the habit by them,
 “ with cordial and warm medicines;
 “ mixed with opiates. This method
 “ they continued until the pain was
 “ gone, and the tumour subsided;
 “ and, to prevent its return, and carry
 “ off all remaining goutish humours,
 “ and to strengthen the habit, they
 “ pursued gentle stomach purges, aro-
 “ matic diluters, and warm altera-
 “ tives, till a strong concoction was
 “ obtained. And most certain it is,
 “ that this method will cure any fit
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“ of Gout, how obstinate soever, and
 “ that in a few days. The reasons
 “ they give for this procedure were,
 “ that by this method inflammatory
 “ rheumatisms, of the nature of
 “ which Gout was, erysipelas, schir-
 “ rhous, and even hot tumours, were
 “ safely, quickly, and certainly, with-
 “ out relapse or danger, carried off;
 “ and that the danger arising in
 “ common practice, from purging off
 “ a fit of Gout, was, that care was not
 “ taken to prevent its returning, or
 “ its falling on some other noble
 “ parts, by continuing these gentle,
 “ warm purges, diluters, alteratives,
 “ and strengtheners, to carry off en-
 “ tirely the gouty remains, to sweeten
 “ the sharp humours, and to strength-
 “ en the relaxed solids.”

Left there should remain a doubt
 concerning the quality of the mat-
 ter purged off, and which must be
 considered as the fomes of the dis-
 ease,

eafe, he classes the Gout with rheumatifms, eryfipelas, and hot tumours, which all originate from nervous commotion, and an extravafation and accumulation of hot and acrid bile. It is the bilious matter, which not only directs the nervous impetus to the extremities, in the gouty paroxym, but also fupplies the fuel of the inflammation which accompanies it; and which, like all bilious inflammations, is of the nature of an eryfipelas: and when Gout unluckily happens to be misplaced, and to fall in the throat, the lungs, &c. it is the eryfipelatous inflammation of the part that constitutes the chief danger; and the difeafe, in fuch cafes, ought to be treated exactly as is directed in a genuine eryfipelas, with bleedings, and abdominal evacuations.

The method thus recommended, and exemplified by the experienced
Dr.

Dr. Cheyne, for the relief of a paroxysm, serves to explain the true origin, and fomes of the Gout: by evacuating the latter from the first passages, a present, or impending fit, may be prevented, or removed, expeditiously and safely; but it leaves the patient equally liable to a relapse. And, indeed, such is the irritating nature of hasty purges, that was it not for the composing quality of the opiate directed to be taken after the operation of each dose, his plan of purging would stimulate the nerves into fresh tumults, fresh bilious accumulations, and a renovation of every symptom it was intended to relieve.

The propriety of administering opiates in the Gout, has been a question much agitated amongst practitioners. In my opinion, it is a question easily answered. If bile is the fomes of the disease, the proper evacuation of that is first of all necessary.

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Before

Before that business is performed, opiates must be improper; and after the bile has been properly evacuated, opiates are unnecessary. They may sometimes be used with success in allaying nervous commotions, which, if not immediately composed, might induce a paroxysm of Gout; but then they must be administered before the commotion of the nervous system has produced any discharge or collection of bile in the gastric region.

C H A P. XVIII.

A certain and effectual method proposed for preventing or carrying off every gouty attack.

IN attempting the cure of Gout, two objects must chiefly be held in view: viz. first, to discover the means by which an impending, or incipient
 paro-

paroxysm, may be with safety and certainty averted. Secondly, to secure the patient from the danger of a relapse, or of a metastasis of the disease.

From the account or rationale already given of a gouty paroxysm, it will appear, that to avert, or to remove an attack, all that is necessary is, to continue the regular flow of the nervous fluid through the animal machine, or to restore it when interrupted or perverted. I shall first speak of the mode of restoring a regular flow of the ethereal principle, when interrupted or perverted.

As in all attacks of regular Gout, the first effects of the commotion are felt about the stomach and intestines, in considering of a remedy, the attention is naturally led to that quarter. The guts are certainly the natural common sewer of the body, and by that channel it will be found easiest

to vent the impetus of the excited gouty ebullition, along with the extravasated and stagnating bile, and other impurities, produced by the first symptoms of the gouty commotion in the region of the stomach. The commotion when once excited must have a vent ; and if the impetus is not conducted out of the body, it will fall on some part of it, either in the form of regular, or misplaced and irregular Gout ; and the bowels being the part where the first symptoms are generally felt, nature seems to point to them as the proper outlet of a gouty ebullition, from whence she herself very frequently discharges it in a safe and easy diarrhœa. It must be always remembered, that the irregularity in the motion of the nervous spirit, occasioned at first by the exciting stimulus, is not confined to the intestines only ; for, at the same time that the peristaltic motion of the
guts

guts is stopt, the perspiration on the surface of the skin ceases; so that this elastic spirit, at the commencement of a gouty attack, is in a manner imprisoned in the body, and whichever emunctory, or outlet, is first properly opened, from thence the whole tide and torrent of the ebullition will escape; in consequence of which the progressive motion of the vital principle will be renewed through the whole frame, the stomach will be relieved, the capillary tubes will again be expanded, their contents will complete their circuit, and all the offices of the animal machine will gradually recover their wonted vigour. But the difficulty is, to discover the means, which, by operating efficaciously on the nervous system, may be able to reconducting the tide of animal spirits in its proper channel, through the intestinal canal. A common purge is not fit

for this purpose; and, with all due respect to Dr. Cheyne, such harsh medicines as he proposes are more likely to protract or renew a paroxysm, than to remove it; and that for the reason already given. But no common, nor indeed any purge, nor any thing stimulative, is proper for the office of a sedative aperient.

In my Gouty and Bilious Cases, I have given the most undubitable evidence, to prove that the medicine, which I have offered to the public, in every respect answers the purpose of a safe, easy, and efficacious remedy in these two disorders. It appears to allay the nervous tumult, and to relax that general spasm of the nervous system which precedes and accompanies the first onset of gouty and bilious paroxysms, and to renew the free current of the ethereal spirit through all the intestines. The spasm being removed, the bile
which

which had been accumulated pours freely out into the intestinal canal, from whence, by its own stimulating acrimony, and the renewed vermicular or peristaltic motion of the guts, it continues to be thrown off in hot stools, until it is all discharged.

In some cases, the bilious matter lying more contiguous to the kidneys, passes off in very high-coloured urine, from which it separates and falls to the bottom, on standing, and appears like a deep brick-coloured powder. Together with these two passages, the same medicine never fails of opening the pores of the skin. An old lady of seventy, who had long been subject to gouty paroxysms, was, by taking only nine pills, entirely relieved from a violent fit, and recovered the use of joints that had been long rigid. The pills in this instance had no other visible operation,

tion, but that of producing a copious perspiration on the feet and hands*.

If the patient does not neglect the usual previous warnings in the gastric region, a gouty paroxysm may always be, in the above mentioned way, safely prevented, with little trouble to the patient, and even without consciousness of the operation, when the medicine passes off by the kidneys only.

In like manner, the above mentioned medicine is equally efficacious in the chronic and irregular Gout, and in most bilious and hypochondriac cases : for as an interrupted, or inverted motion of the ethereal fluid, is the cause, so the composing of all nervous agitations, and the renovation of the natural circuit of the nervous spirit through the intestinal canal, being the almost constant effect of these

* Vide Histories of Gouty, Bilious, and Nervous Cases, fourth edition.

pills, it is followed by a discharge of the redundant and stagnating bile; and a loose stool or two, or urine loaded with bile, continue daily to be discharged, until every gouty or bilious symptom vanishes, and the skin becomes soft, the complexion clear, the sleep refreshing, the appetite is restored, and the whole body enjoys a sense of vigour and alacrity. But gouty cases of a very irregular nature, and which have occasionally imitated every nervous symptom, without any particular criterion of Gout, except, perhaps, the appearance of chalky urine, are frequently cured by this antispasmodic medicine, without any visible evacuation, either from the kidneys or guts; but merely by the allaying of the nervous commotions, and restoring the regularity of the nervous system together with the insensible perspiration on the surface of the skin.

C H A P. XIX.

Of a gouty regimen.

AFTER having discovered the means by which gouty and bilious paroxysms may be removed, the next object is to obviate the immediate causes of such attacks, and to correct the constitutional irritability of the nervous system: but to guard effectually against relapses is, in some cases absolutely impossible, in all very difficult. For example, when there is an inherited irritability, so acute as not to endure, with impunity, the common vicissitudes of the weather, or the commotion occasioned in the nervous fluid by the revolution of the seasons; and which has, perhaps, excited regular paroxysms of Gout at the earliest period of life, in
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some even before the age of puberty ; in such cases, the nervous system must remain, as nature framed it, ever liable to the consequences of a diseased sensibility, coeval with the original mechanism of the fabric. Care and attention, however, may avoid many circumstances which are stimulative of a paroxysm ; but of all others, an emigration to a southern climate would be the most effectual preservative ; to a climate where the equality of the seasons hardly admits of the distinction of spring and autumn, and where the constant, or almost constant serenity of the sky, precludes all apprehensions from the vicissitude of weather. But when any person unfortunately inherits a constitution of such irritability, as no care can defend against the effects of the seasons, and of the weather, whilst in this climate ; and who cannot remove to another, his chief trust must be in the occasional use of
such

such medical means as I have invented, which will, at the commencement, as well as at any later period of the paroxysm, open a passage for the whole impetus of the Gout to take its course out of the body, together with all the colluvies arthritica, or bilious matter, that may be collected.

When, on the other hand, the irritability of the nervous system is not the work of nature, but of intemperance; and when the causes already enumerated as predisposing to Gout, have been the sole means of reducing the nerves to a state of diseased sensibility; in such cases, careful attention to regimen, and to the government of the passions, may do great things towards restoring the body to the degree of healthful firmness it originally possessed.

Although a gouty patient may be considered as irritable at all points, yet each man seems to be more vulnerable in one part than in all the rest.

rest. In some, it is chiefly an error in diet that induces a paroxysm; in others, the inclemency of the weather, change of seasons, and such external circumstances, are the most efficacious stimuli; and in a third the mind is the seat of irritation. The patient's own observation will readily discover, that part which is weakest, and which ought to be most guarded.

In respect to diet, only general directions can be given, which must be varied and accommodated to particular circumstances and constitutions. The diet must ever be proportioned to the peculiarities of the digestive powers. Was I to recommend in general, to all gouty patients, a vegetable and milk-diet, together with a beverage of water, or small beer only, what would its effects be in a stomach habituated to animal food, and a generous glass of wine? Undoubtedly the stomach would become too cold
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for the office of digestion; it would be filled with flatulencies, and in danger of becoming the seat of the next paroxysm of Gout, which so debilitating a change of diet would speedily excite. In some constitutions wine produces an unfriendly, irritating stimulus upon the nerves; in some, moderately used, wine is a necessary cordial. A very little attention will discover whether it is inimical, or, if it is, whether only so when used to a certain point; for in aged constitutions, especially such as are worn down by the disease, or by intemperance, what dangerous consequences might not be expected to follow the sudden adoption of a cold and flatulent diet? for it must be ever held in mind, that whatever debilitates the body, renders the nervous system more liable to be stimulated into commotion by the change of the seasons, the vicissitudes of the weather,

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ther, the fluctuations of the human mind, and by all other irritating causes external, or internal.

That particular diet, used with moderation and temperance, which produces, after every meal, a general glow through all the abdominal viscera, together with a serene hilarity of mind, is certainly the best. On the contrary, if there is flatulence, oppression, and a disagreeable fullness in the stomach after eating, added to a disposition of mind which, without any apparent cause, is easily hurried, fretted, or plagued with a sense of impatience; the diet that produces such painful effects is certainly ill-suited to the constitution of the patient; and changes ought to be made until one more favourable is discovered.

C H A P.

C H A P. XX.

A more minute description of a regimen proper for gouty patients.

IT must be understood that, previous to the commencement of a regimen, I take it for granted that every medical step has been taken to remove all stimulating bilious matter from about the region of the stomach, which, when permitted to remain, is an endless source of indigestions, and mental distress.

To descend to a more particular description of suitable diet; simplicity of cookery in every respect, must be accurately adhered to. It ought to be the subject of constant attention, to create no stimulus of any kind in the stomach; all must be mild, smooth, and grateful to the nerves there. One rule

rule is universal, and ought to be invariable, which is to eat of one thing only at one meal; and if that one thing is meat, let it not be overdone, let the juices be entire in it, it will more easily digest, and be more nourishing. So religiously should this rule of eating only of one thing at one meal be adhered to, that I would not add even a bit of cheese; all art in dressing food, except plain roasting, boiling, or broiling, ought to be excluded; and all sauce, except the juice of the meat.

If the constitution requires an alteration of diet, let there be days appropriated for puddings, made without fat or fruit; for soups, or rather broths, and for such vegetables as are mildest and least flatulent. Upon these meagre days, malt liquors of all kinds are improper; instead of which the drink may be water mixed with white wine, or water alone, taking
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the wine after it; or a little spirits and water, where that is more palatable, but without sugar. Upon meat-days, small beer will be sufficient. Another suitable form of diet for many constitutions will be meat for dinner, dressed as already mentioned; and milk, or water-gruel with milk, made hot, for breakfast and supper. By these simple modes of eating, the stomach will more easily perfect its work, and the patient will also be at no loss to distinguish which is most agreeable to his constitution, of all the different articles of food thus separately taken on different days.

Another regulation ought carefully to be attended to, and that is, to avoid all sippings of every kind between meals; this is more particularly necessary after the digestion of a meal is fairly begun. How often does it happen that a few cups of tea, or coffee, taken after a hearty dinner,
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and after drinking wine, convert the whole contents of the stomach, at least all the liquids of the stomach, into a state of acidity; and how often, how general the complaint, that tea and coffee in the afternoon prevent sound sleep at night; which is imputed to the specific effect that these liquors have upon the nerves: whereas the fact most probably is, that by interrupting digestion, they occasion a kind of crudity to take place in the stomach, which continuing all night, irritates the nerves, so as to prevent sleep.

A supper is a very unhealthful meal, particularly in this country, where we dine so late, and eat so heartily at dinner; and probably the chief reason why it is so unhealthful, and occasions such uneasy sensations, and so disturbs rest, and oppresses the stomach, is, that it interrupts the digestion of the dinner, being taken be-

fore that is finished, and by that interruption, the contents of the stomach become crude, and the supper, with the remains of the dinner continue the whole night in a state of indigestion, and consequently irritating and stimulating the nervous system in a very unfriendly manner.

As the great source of stimulus in the stomach is an imperfect digestion, care ought to be taken, never to put into it more than it can expeditiously digest. To rise from table with some degree of appetite is both conformable to the rules of physic, and to the principles of gratification ; to preserve the unabated possession of all the senses, is in this case, a most rational piece of luxury, a commendable refinement.

Fish is among the articles of food seldom to be ventured upon ; besides the natural unhealthfulness of that diet, the necessity of eating with it a
 quantity

quantity of butter and other improper things by way of sauce, ought to exclude it from the eatables of a gouty person.—In the most healthful and vigorous constitutions, some powerful assistance is often necessary to enable the stomach to digest fish. Hence the common proverb, that fish should swim in the stomach in wine, as it did before in water; and hence the very general custom of using liqueurs and other cordials immediately after eating it. However, many gouty persons, who in the intervals of that disorder enjoy a very good digestion, may safely eat of white fish, provided they use drawn gravy instead of butter for the sauce, which they may season with soy, catchup, Cayenne pepper, &c.

In regard to the article of drink, great care ought first of all to be taken, not to exceed in quantity; too great a quantity of weak liquids is ca-

pable of doing as much mischief as too great a quantity of strong, when frequently and habitually used ; they equally impare the electric powers of the stomach. One half pint of any mild weak liquid is sufficient at one meal ; a sense of thirst after dinner, in the afternoon, will inform you when more is necessary ; more liquid is necessary to a meal of animal food than when soup, pudding, or vegetables are eaten. The quality of the liquid ought to be mild, simple, uncompounded, and not liable to fermentation in the stomach ; and, in general, for every constitution subject to nervous disorders, all mixture of liquors in the stomach is improper, and particularly small beer should never be drank at the same meal with red wine ; and whoever is at any time obliged to drink more wine than is agreeable, will find by experience, that one draught of small beer, or other

ther fermentable beverage, will double the effect of all the wine in the stomach ; and that, on the contrary, an equal draught of water opposes and diminishes the intoxicating quality of wine : in the same manner, intermediate glasses of Champaign hastens the period of intoxication, when even a glass of brandy would, in the same circumstances, retard it ; the first promotes fermentation in the stomach, and the other checks and prevents it ; the one diminishes, and the other increases, the electric and digestive powers of the stomach. Likewise the habitual use of cyder, or stale beer, or any sharp liquor, has been found to act powerfully and unfavourably on the irritability of the nervous system, and, in that respect, to be greatly productive of Gout.

Another copious source of nervous agitation, is the mind ; and of all the painful consequences that attend an

acute irritability of the nervous system, none are more intolerable than those that affect the mind. The mind is the seat of pleasure and of pain; and whatever independent qualities the soul may possess, whilst it is connected with the body it seems to feel nothing but through a corporeal medium. In all disorders of the nervous system, the mind acts merely as a reflector of the state and temperament of that corporeal medium. And, on the other hand, the mind, in certain situations, reverberates, with double energy, all its own painful sensations and grievances upon the nervous system. When, therefore, I am told of any person remarkable for a peevish, querulous, fretful temper, I suppose that the fault may be owing to some unfortunate circumstance in the formation or structure of the nerves. And when a lady prematurely loses her complexion, is troubled

troubled with bilious complaints, &c. the cause may frequently be a too great sensibility of mind, which may also have had too frequent cause for agitation. And by proper attention and enquiries, a physician will readily inform himself, whether the nervous system, and of course the mind, has been endowed originally with too great a degree of sensibility ; or whether the nervous system, originally firm and good, has, by painful and frequent agitations of the mind, by irregularity in hours, in diet, the want of proper exercise, &c. been shaken, and reduced to a state of diseased sensibility, productive of gouty, stomachic, icteric, and bilious complaints and appearances. In short, whether the irritations have passed from the mind to the nervous system, or from thence to the mind, in either case the corporeal consequences are the same : but the misfortune is, that
all

all these disorders acquire vigour by every new symptom they produce. The nerves are first weakened and disordered; their disorder produces bilious, stomatic complaints, &c. and the extravasated, acrimonious bile, exasperates all the circumstances that produced it, occasioning a constant irritation of the nerves, and through them, of the mind, together with inappetency, indigestion, relaxation, feverishness, and all the endless variety of symptoms that may spring from such a copious source: all which symptoms, from the apparent yellow tinge of the skin, together with the frequent discharge of bile, are stamped with the general appellation of bilious.—But instead of the symptoms and diseases just enumerated, in a constitution where a gouty bias is prevalent, such a morbid irritability of the nervous system, and such a chain of causes, would
have

have produced a paroxysm of Gout ; and as the agitations of the mind, when continued, weaken, in a particular manner, the powers of the stomach, that viscus would most likely, in such a case, have been the part to which the gouty paroxysm would at first have pointed its attack.

The list of occasional accidents furnish another source for the immediate causes of Gout, which, however, are often little suspected to be the authors of the next paroxysm that makes its appearance. When a man gets a severe fall, or any other sudden and violent bodily shock, he cannot conceive that the fit of Gout which succeeds soon, or immediately after, has that accident alone for its cause. Indeed if his foot has slipped, or if he has strained his ankle, or given a sudden wrench to the bones of the foot, and that accident is succeeded by a gouty paroxysm in the same joint, the case,

case, in his opinion, admits of no doubt; the strain, or wrench, has drawn the gouty humour to that part: whereas the fact is, that, as before the accident, there existed no gouty humour, so the pain and concussion received by the accident, excited a general commotion of the nervous spirit; which commotion usually terminates, in a gouty patient, in a paroxysm of Gout; and in an hysterical female, the same accident would have excited a commotion which would have terminated in a violent paroxysm of hysterics.

C H A P. XXI.

The term Bracing, generally understood;—what it really is.

HAVING thus pointed out the principal sources whence the causes stimulative of Gout most commonly

monly originate, it will not, I apprehend, be necessary to add any arguments to persuade gouty, bilious, hypochondriac, or hysterical patients, carefully to avoid them. In some instances, however, as in early and hereditary Gouts, when the irritability is so great, that the most common events of life are sufficient to interrupt the regular flow of the nervous fluid, what caution can aught avail? But even in such gouty cases, as well as in every other disorder of nervous origin, though it is impossible to evade what must be every where encountered, something may, and ought to be done, to give more firmness to the nervous system. With this view great care ought to be taken, to avoid whatever is known to weaken, or, in the common phrase, to relax; for whatever does either, diminishes the electric powers of the body, increases the irritability of the
nerves,

nerves, and heightens the gouty propensity; such as too cold and low a regimen; the too liberal use of tea; adopting water for the only beverage, when the patient is neither young nor vigorous; a sedentary life; gloomy ideas, &c. Instead of which, I would recommend whatever exhilarates, and warms, and strengthens, without irritation; such as exercise, bitters, steel, the bark, &c. whatever corrects and removes acrimony in the stomach and primæ viæ; whatever allures the circulation to the surface of the skin, as warm bathing, friction, a southern, dry, serene, warm atmosphere; these will restore, in some measure, the electric powers, and give to the nervous fluid a more firm and vigorous motion towards the surface of the skin, by which it will be less liable to be disturbed by the minute stimuli already mentioned. The above directions

rections are also applicable, with very little variation, in all nervous cases, whether the agitations direct their impetus to one part of the body or another ; and whether they produce stomachic, bilious, eruptive, hypochondriac, hysterical, or gouty symptoms, not only the regimen, but the medicinal course, may be nearly the same in all these seemingly very different disorders ; of all which disorders, and of all chronic diseases, without any exception, the easiest, in my opinion, to be relieved and remedied, is the Gout, whether it be of an acute or chronic, regular or irregular kind.

Before I finish this part of the subject, it may not be amiss to remark upon the very improper gross idea commonly entertained of the means and operation of bracing. It is not always that an austere astringent medicine, applied externally to
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the stomach, will brace, or that a cooling diluent will relax; the very reverse is true in a multitude of instances : the end of bracing, is to increase, to a certain point, the electric principle of the animal machine, and to induce a free and easy circulation of that, and consequently of all the grosser fluids.

When a course of high living, repeated intemperance, and indigestion, has heated, fouled, and loaded the region of the stomach, liver, &c. with impurities ; a cool diet, temperance, and gentle purgatives, will prove the most efficacious bracers.—When the patient labours under a constitutional debility in these regions, which has induced bilious evacuations, obstructions, and a train of distressing hypochondriac symptoms, the bracer, in that instance, will be whatever is capable of discharging the bile, removing the obstructions,

structions, and restoring to the stomach its pristine powers of vigorously and steadily collecting and distributing the ethereal spirit, by which the peristaltic motion of the guts, the perfect circulation of the juices, together with all the other functions of the animal œconomy, are alone performed, and on which single circumstance health and life depend. When the mind is oppressed with anxiety, wounded with disappointment, or torn with despair, the bracer is not to be found in medicine, nor in regimen ; these can only operate upon the body, where the cause does not exist. When the circulation languishes, and almost stagnates under the influence of a spiritless, unelastic atmosphere, in which the ethereal fluid seems scarcely to exist, the immediate and only bracer, is a south wind and a serene sky. It may also be of use to remark upon the

O bracing

bracing effect which exercise has in the body, that the friction of the surface of the skin by brushes, &c. and the exercise of the muscles of the body, are so similar in their nature, that their medical effects in the constitution must be admitted to be the same. Now we know for certain, that it is the property of friction to increase the proportion of the electric fluid, natural to all living or electric bodies ; and we may therefore conclude, that exercise braces and performs all its other good offices in the body, by increasing in it the quantity, and directing with firmness the action of the electric principle.

C H A P. XXI.

The event of the Gout, when left to itself.

THE ill success that has attended every endeavour to remedy, or even to mitigate the severity of the Gout, under the management of the faculty, together with the impositions and frauds committed by ignorant pretenders and quacks, have at last brought the minds of all ranks of people into so obstinate a scepticism respecting the prudence and efficacy of medical assistance in such cases, that the task is infinitely less difficult to relieve or remedy the Gout, than to remove the rooted prejudice against the attempt. The general cry is, that if the Gout could be removed, there would arise in the body some

other more dangerous disorder, such as dropfy, confumption, palsy, &c. but if our reasoning on the nature of the Gout obtains any credit, our method of cure will not be found liable to objections of that fort.

When nature fuperfedes the Gout, by a difcharge from the hæmorrhoidal veins, or from the furface of an open ulcer; or fufpends its approach, by the periodical evacuation of the menfes, ſhe acts in a manner fimilar to the mode here recommended; as faft as any ebullition arifes in the nervous fyſtem, it paſſes off by theſe outlets. In like manner, by adopting our plan, as ſoon as the firſt ſenſation of Gout is felt in the conſtitution, the ebullition may be let off, if the expreſſion is admiſſible, by the open channel of the inteſtines, or by the kidneys. It may be effected even before the gouty commotion can have had time to collect
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any considerable quantity of bilious matter. But when the bilious accumulation is actually formed about the gastric and hepatic regions, and the paroxysm advances in form, uninterrupted by any attempt to relieve, or mitigate its severity, the principal distress afterwards arises from the difficulty of passing the immense quantity of stagnating, acrimonious bile, by the narrow emunctory of the kidneys, the only channel which nature, when left to herself, seems in general disposed to use for that purpose. Comparing the quantity and quality of the matter to be discharged, with the narrow tube through which it must pass, we may easily suppose that the process must be very slow, and consequently that the stomach and intestines must continue oppressed by a load of acrimonious matter during the course of the longest fit, which never can fairly

terminate whilst any bile remains extravasated, or stagnating improperly, in the hepatic or gastric regions. Hence it happens, that men whose *primæviæ* have been much weakened by the Gout, have always more or less bile stagnating about these parts, and are never fairly clear of gouty feelings and symptoms. And every fit impairing, in some degree, the digestive and electric powers of the stomach and intestines, great obstructions are gradually formed in the liver, and in its neighbouring glands; and frequent attacks of jaundice, and other bilious complaints, together with atony, sickness, and every symptom of restless and peevish anxiety, harass the patient, and exhaust the temper of the attendants with fruitless assiduity.

But these are not all the ill consequences that arise from the slow,
confined,

confined, and imperfect evacuation of the bile, during the gouty paroxysm, by the narrow and inadequate channel of the urinary glands ; for, from the minuteness of that excretory or passage, compared with the quantity and consistence of the acrimonious matter to be passed off, and from the recumbent posture of the patient in bed, which occasions a constant pressure on the kidneys and ureters, and which are also greatly heated by the feverish condition of the body, is sooner or later, almost always generated a disease more terrible than the Gout itself, and that is the stone. It is very much the disposition of bile to form calculous concretions ; and the stone in the gall-bladder seems no otherwise to differ from the stone in the kidneys, or in the urinary bladder, than that the bile in the latter situation being diluted in water, the earthy particles

approach nearer to each other, and are united more closely, and consequently form a stone of a more firm and solid consistence in the urinary bladder than in the gall-bladder.

Now, if at the commencement of every gouty paroxysm, an auxiliary vent had been opened for the bilious matter to pass speedily off, for example, by the intestinal canal, all the above mentioned calamitous maladies might, and undoubtedly would have been evaded, as the whole acrimonious collection might have been with great ease evacuated, and the fit by that means have been terminated, in a few days; for in the regular Gout, the fit ends the moment that all bilious matter in the gastric region is evacuated. The medicine, or remedy, by which this artificial drain is to be opened, must act as an anodyne, an antispasmodic as well as aperient; for all purgatives, being
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ing stimulants, tend to excite and renew arthritic symptoms rather than allay them, and are therefore unfit for this office.

When the Gout is unopposed, and when, without any attempt being made to remedy it, either by medicine or regimen, it is left entirely to itself, after tormenting the unhappy patient with every mode and species of pain, and inconceivable wretchedness, it finishes its tyranny, in the manner most pathetically described and lamented by Sydenham, who himself long endured the attacks of that cruel disease, and to which at last he fell a martyr. His words, translated by Swan, are as follow.

“ But besides the above mentioned
 “ symptoms, viz. the pain, lameness,
 “ inability to motion of the parts af-
 “ fected, the sickness, and other cir-
 “ cumstances above enumerated, the
 “ Gout breeds the stone in the kid-
 “ neys

“ neys in many subjects, either be-
 “ cause the patient is obliged to lie
 “ long on his back, or because the
 “ secretory organs have ceased per-
 “ forming their proper functions, or
 “ else because the stone is formed
 “ from a part of the same morbidic
 “ matter, which, however, I do not
 “ pretend to determine. But, from
 “ what cause soever this disease pro-
 “ ceeds, the patient is sometimes at
 “ a loss to know whether the stone
 “ or the Gout be most severe; and
 “ sometimes a suppression of urine,
 “ caused by the stone’s sticking in
 “ the urinary passage, destroys him
 “ without waiting for the slow ad-
 “ vances of its concomitant the Gout.
 “ The patient is not only reduced to
 “ this helpless condition, but, to
 “ complete his misery, his mind,
 “ during the fit, sympathizes with
 “ his body, so that it is not easy to
 “ determine which of the two is
 “ most

“ most afflicted; for every paroxysm
 “ may be as justly denominated a fit
 “ of anger as a fit of Gout, the ra-
 “ tional faculties being so enervated
 “ by the weakness of the body, as
 “ to be disordered upon every trifling
 “ occasion; whence the patient be-
 “ comes as troublesome to others as
 “ he is to himself. Moreover, he
 “ is equally subject to the rest of the
 “ passions, as fear, anxiety, and the
 “ like, which also torment him till
 “ the declension of the disease, when
 “ the mind is restored to health along
 “ with the body, having recovered
 “ its former tranquillity. To con-
 “ clude: the viscera, in time, are
 “ so much injured, from the stagna-
 “ tion of the morbid matter there-
 “ in, that the organs of secretion no
 “ longer perform their functions;
 “ whence the blood, overcharged
 “ with vitiated humours, stagnates,
 “ and the gouty matter ceases to be
 “ thrown

“ thrown upon the extremities, as
 “ formerly, so that at length death
 “ frees him from the misery.”

Thus does the venerable Sydenham, with his usual sagacity, ascribe the formation of the stone to the morbid matter of the Gout, which he supposes may have a propensity to produce calculous concretions. He also imputes the disorders, gradually brought on the abdominal viscera of gouty persons, to the same morbid matter stagnated or obstructed there; and these are precisely the ideas that we have here adopted. And nothing is more certain, than that both these disorders are produced by the same cause; but that cause is, as we have already attempted to prove, not an imaginary morbid matter, but real thick, acrimonious, extravasated bile: and the ill effects arising from the accumulation and stagnation of bilious matter about the viscera, are so

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obvious,

obvious, that a particular description of them seems unnecessary. The acrimony of the juice will keep up a constant stimulus, together with a constant, though imperfect paroxysm of Gout, the impetus of which must revert chiefly upon the stomach and gastric region, that being the most debilitated part. And the constant redundancy of bile will excite a continued feverishness, with thirst, nausea, indigestion, and atony, which very hot cordials seem somewhat to alleviate; and therefore, in these circumstances, every patient acquires an instinctive appetite for strong spirituous liquors: but nothing can prove a remedy, in such cases, that is not capable of composing the irregularities of the nerves, opening the obstructions, and, whilst it restores the peristaltic motion of the guts, evacuates the stagnating juices: and this must also be performed without

out exciting any irritation, else the remedy will prove worse than the disease.

And fortunately this, in almost every case, may be done with ease and safety ; and therefore, although it is not in the power of art to change an hereditary irritability into a firm system of nerves, nor by regimen, exercise, &c. to render such a constitution unaffectable by those causes that are stimulative of gouty paroxysms ; yet these paroxysms, when threatening, begun, or even fairly fixed, may be safely carried out of the body by the channel of the intestines, or by the kidneys, or alternately by each, according to the stage of the fit, and the situation of the gouty or bilious colluvies in the bowels. By such a process, the only existing, real gouty matter, is evacuated and expelled out of the constitution in the same way that nature

ture takes, only more expeditiously, without confinement, fever, or pain, which are the great sources of the debility, disease, and the accumulated distress, which a succession of tedious and painful paroxysms ultimately bring upon the miserable patient. For the chief calamities of Gout are brought upon the body by the long continuance of the acrimonious, bilious colluvies in the gastric region, and intestinal canal, by which a fever is excited and kept up, until all that matter is passed off by the narrow and inadequate channel of the kidneys ; which is a process of some weeks ; during all which time the gastric region is loaded and overwhelmed, and in every fit some new obstruction is formed, or some old one confirmed in the liver, pancreatic glands, &c. till at last there is no longer any distinction of paroxysms, but there exists an almost continual

continual feverishness, with pains in various joints, and other parts of the body, together with sickness, anxiety, inappetency, jaundice, dropsy, stone, and every species of distress, the last and least of which is death.

When, in the manner here proposed, the gouty paroxysms are discharged out of the body, almost as suddenly as they arise, instead of being permitted to torture slowly, and ravage in the constitution for weeks, destroying every remaining principle of strength and firmness, regimen, during the intervals of the Gout, of which exercise is a most material and important part, may, under such circumstances, restore the nervous system to that point of sanity, from which excess and violence had driven it.

But what can be expected from regimen during the short intervals
of

of Gout, when the very next paroxysm is suffered to exert so much of its destructive influence, and for so long a time, that every succeeding fit leaves the body in a more diseased condition than the former did: so that by every fit the number and severity of the morbid symptoms are increased. On the other hand, when, instead of being confined by gouty attacks, one half or three fourths of the year, the patient, by a proper medical course, permits the fewel of each attack to be evacuated in the manner just mentioned, thus escaping pain, fever, and confinement; regimen in that case, change of air, and exercise during the intervals, &c. will then have its full efficacy, in securing the body against the constitutional propensity to a relapse; and all the dreadful train of symptoms, arising from tedious and frequent paroxysms, will be avoided.

A D D E N D A.

Nervous fluid, p. 42.

WHEN I say that the ethereal spirit is the nervous fluid, and the moving principle in the nervous system, I do not understand that in these capacities it exists and acts in the naked state which renders it visible in operations of electricity. It is capable of infinite combination, modification, and diversity, without losing those specific properties which are necessary for the performance of the offices here assigned to it, in the animal œconomy. And the reader will not withhold his assent one moment to the probability of this opinion, when he recollects, that, according to the philosophy of all ages, the whole exhibition of nature through

through the extent of creation, every form, mode, quality, and appearance, animate and inanimate, originate and are formed of no more than four or five, perhaps not more than three elementary principles, of which the electric spirit is probably the chief.

Lochia, Chap. XII.

THE painful and weakening circumstances preceding, accompanying, and consequent to delivery, fail not to reduce the nervous system of puerperal women to a state of great irritability, the commotions of which are vented along with the lochia, after delivery. When no unnatural check happens to the lochia, they gradually diminish, as the impelling cause, the impetus of the nervous spirit, abates; and instead of red blood, the discharge becomes pale, thin, watery, colourless, and vanishes;

and this is the proper, natural, and healthful process. But when, by some unlucky accident, the discharge suddenly stops whilst its colour is yet a strong red, then it is prematurely stopt, however long it had before continued, and the elastic nervous fluid, which should have been vented at the uterus, reverts, and produces various nervous symptoms, puerperal fevers, deliria, mania, &c. sometimes Gout, and sometimes an extraordinary discharge of blood from some other parts of the body, as in the case above related. In my own opinion, it is neither the continuation, nor quantity of lochia, but the gradual declension and change of colour, that is to be depended upon in the puerperal discharges, as the true criteria of sufficiency.

Milk diet, Chap. XX.

THE point aimed at, and sometimes obtained by a milk and whey diet, is the quieting all irritation, in the stomach, which, as has been observed, is the part of the animal machine whence the nervous system chiefly derives agreeable or disagreeable sensations, and from which the nervous fluid acquires a regular firm motion towards all the distant parts of the body, or is stimulated into irregularity and commotion. And in consumptive cases, originating from nervous commotion, and where the tide of the nervous fluid, having been disturbed and driven from its natural course, has unfortunately been turned on the lungs, into which, and the juices circulating in them, it empties itself, creating a constant stimulus and inflammation in the first, and sickness in

in the latter, milk and whey are an excellent regimen, and, for the most part, the only remedies from which any good can be hoped in consumptive cases, whilst the patient remains in this country; for, next to the recalling the impetus of the nervous irregularities from the vital parts, to compose and to supersede all nervous commotion is the most desirable object to be obtained. A vegetable diet, so constantly and so inefficaciously applied to in consumptive cases, seems calculated to increase nervous irritability, and the symptoms it was intended to remove, by weakening the bowels, and exciting flatulency in them; for whatever disturbs the bowels, disturbs the nervous fluid. If, indeed, by a long continuance of vegetable, flatulent, debilitating diet, the stomach should at last be so much weakened, as to become the center to which every nervous commotion directs its course,

course, then a metastasis might ensue from the lungs to the weaker viscus, and a set of hypochondriac or bilious symptoms might supersede the consumptive ones. Balsamics, that is, warm balsams and gummous medicines, sometimes are serviceable in consumptions: when they succeed, it is in phlegmatic, languid, cold constitutions: by warming the stomach, they communicate greater firmness and regularity to the ethereal tide, they direct it to the surface of the skin, its natural channel, and by that means free the lungs from the attack.

And in fact this is very frequently the issue and termination of such coughs, spitting of blood &c. consumptive, or pulmonary disorders as are brought on by an attack of the irregular Gout on these parts; of such cases I can produce a variety of instances; but though many consumptive coughs, and other complaints

plaints on the breast, are thus happily terminated by the unassisted operation of nature, yet many more, that terminate fatally, might have been cured in the same way, by the operation of a medicine capable of removing the gouty cause.

Vide the case of W. Masterman, Esq. M. P. for Lestwithiel, in my Gouty and Bilious Cases, the 4th edition.

From the foregoing observations, the manner in which a whey regimen proves an effectual remedy in erysipelas, acute rheumatisms, and other diseases of the nervous and bilious class, may easily be comprehended.

F I N I S.



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